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in the Netherlands

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NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION

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The Foundation places itself at the service of international co-operation in the academic and scientific field by

(a) promoting higher education and scientific research in *the Netherlands* of a nature capable of meeting needs felt beyond the country's own frontiers;

(b) making known abroad what the Netherlands can contribute to international co-operation in the field of higher education and scientific research;

(c) lending its collaboration in other ways to further international scientific exchange in the widest sense of the term.

Negotiations with other institutes and organizations regarding co-operation on the production of this Bulletin are still proceeding. So far the following bodies have promised to lend their co-operation:

Ministry of Education, Arts and Sciences
Royal Netherlands Academy of Sciences and Humanities
Netherlands Organization for Pure Research (Z.W.O.)
Central National Council for Applied Scientific Research in the Netherlands (T.N.O.)
Bureau for International Technical Assistance of the Ministry of Foreign Affairs
Royal Tropical Institute
Institute of Social Studies
International Training Centre for Aerial Survey
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International Institute for Land Reclamation and Improvement
Foundation Training Courses and Research
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EDITORAL INTRODUCTION

The periodical you now have in your hands is the first issue of a bulletin, by means of which we hope to stimulate and increase your interest in your own selections from a wide variety of subjects in the field of higher education and research in the Netherlands.

Thus we hope in future to print articles giving, for example, a general outline of the practice of a given branch of science in our country, thereby providing readers with a concise account of the work going on here in the field concerned. Articles of a general nature such as this are rarely met with in professional publications. The reader must not, however, expect to find articles of a specialist nature in this bulletin, for the proper place for such writings is obviously the professional journal.

This is a *bulletin* and its chronicle of announcements, brief notices and reports will accordingly make up an appreciable part of the total contents.

It is clear, however, that a complete and truly representative picture of all the various aspects and facts of higher education and research in the Netherlands of interest to people abroad cannot be given in a single issue. The same applies to the individual sections of the chronicle as well, not only because we cannot expect to receive notice of everything in time for inclusion in a given issue, but also because there is insufficient space to print all the information we do receive.

We hope that you will not hesitate to inform us of any remarks or criticisms you may have. This bulletin is only a means to an end. What matters are the contacts it hopes to help bring about, and it is your reaction that will show whether the means have been adequate.

THE NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION

Now that the Foundation which is gradually getting to be more widely known in the Netherlands and abroad under the abbreviated name of NUFFIC is about to ask your attention at regular intervals through the medium of this bulletin, it seems only natural to introduce it to you in a few brief words.

It may not, perhaps, seem wise to begin this introduction with a statement heard on so many occasions nowadays that it sometimes seems to have become a *cliché*. That statement is that science is not tied to national frontiers but is international in character. We risk making mention of it, because, despite frequent use, it has not become a stale concept but, on the contrary, is being accepted as a living reality among ever wider circles of people.

There is a very keen realization of the international character of science in the economically less-developed countries, which have arrears to make up in the practice of science and which are finding that technical co-operation with others in many forms is indispensable for this purpose. But there is a feeling of interdependence, too, in many countries which are usually regarded as belonging to the economically highly-developed group. The field of science has expanded to such an extent and its practice is often divided up into such minute departments, that no single country has sufficient men or material available to carry on scientific work independently. This factor makes itself felt all the more keenly, of course, in the smaller countries, though the larger countries will not be able to avoid its effects either.

It was this consciousness of the necessity of international co-operation, alive in university circles in the Netherlands, which led a few years ago to the founding of NUFFFIC.

The international idea was not exactly new to the Dutch universities. If we go back over the history of the universities of Leyden and Utrecht, for instance, we see that they were important international centres in the 17th century, centres which saw nothing against appointing foreign scholars of repute to their teaching posts and which accordingly had a large number of foreigners among their students.

The decline of Latin as an an academic medium brought about a change in the character of the Dutch universities as international centres. It is true that contact was not entirely lost with countries abroad, though in later years the movement of students and scholars was towards seats of learning outside the Netherlands rather than in the other direction, and during the 19th century we see even this travel reduced to minimum proportions.

It is only in the last decennia that the balance in beginning to be restored to some extent and that the one-way movement of traffic is becoming transformed again into the interchange customary during the 17th — for the Netherlands, the "Golden" — century.

NUFFIC was set up by representatives of all the universities in the Netherlands and all the universities take part in its administration. Those who know the Netherlands and are familiar with the independent spirit of these institutes of higher education and with the opposition of views which exists in this very special world, will realize what it means that *all* these institutions were agreed on the matter of international co-operation. As the Minister of Education, speaking of the matter in Parliament, at the beginning of 1952, put it: the intention was "that the Foundation should develop into an instrument for the universities' joint participation in international exchange and that it should, as a meeting point for these bodies, perform a useful liaison function from the very beginning". H.R.H. the Prince of the Netherlands originally accepted the chairmanship, later the honorary chairmanship, of the Board of Governors, on which all the Dutch universities and institutes of higher education are represented.

What, now, is the task this Foundation has taken upon itself during the first years of its existence?
In the first place, it functions as a centre where the various institutes of higher education and other academic and scientific organizations come together to consult on the international contacts of the Dutch academic world. In the Netherlands it is easier to arrange for consultation between the ten bodies participating in the Foundation's work than it would be in other countries where the distance from place to place is greater. In our country, after all, it is possible to bring together representatives of the universities (or faculties) or a number of colleagues for joint consultaton without much trouble or loss of time. This, accordingly, is what is done, in the form of boards or special committees. In some cases the results are not immediately apparent, though in others, as will be seen from what follows, they have been quite spectacular.

One of the very important tasks which NUFFIC has set itself is to provide tuition for, and to have scientific research carried out by, students from abroad, working sometimes in co-operation with Dutchmen and sometimes alone, which task is being performed in conjunction with the universities and other scientific institutions. In pursuance of this aim, the Institute of Social Studies was set up in 1952, and for some years the Foundation devoted almost all its attention to this institute, about which further information will be found elsewhere in this issue. During these years the Foundation and the Institute were often identified with one another, and not altogether without justification. Only gradually was it realized that the Foundation and the Institute could only develop along the proper lines, if the way in which they were organized reflected their different functions and aims. The specific task of the Institute lies in scientific research and teaching within a particular field of knowledge; the Foundation, on the other hand, has no special academic task of its own to perform but occupies itself with reconnoitring the field at home and abroad, with supplying information, encouraging new ventures and with performing the work of administration and organization.
It was this realization that each body had a completely different task to perform that led, at the beginning of 1955, to the Institute of Social Studies' obtaining its own separate organization which move made it possible on the one hand for the Institute to develop according to its own needs, and on the other hand left the Foundation free to expand along its own lines.

This reorganization does not mean that the links connecting NUFFIC to its firstborn child have been severed. NUFFIC's Board of Governors still exerts an influence over the Institute's affairs, though that influence is now an indirect one, of a supervisory nature only, and no longer a direct, administrative one, as was formerly the case.

The second international educational project organized in pursuance of the task NUFFIC has assumed is the course in hydraulic engineering which will commence in October of the current year and about which further particulars are also supplied elsewhere in this issue. It is a course based on close co-operation between NUFFIC and the Institute of Technology at Delft. The Institute of Technology has the scientific potential at its disposal on which the success of the course will depend. It will put academic staff in a position to direct the course, or to lend it their co-operation, and will make laboratories and lecture halls available. NUFFIC will take charge of the administrative side, concerning itself with the recruitment of the students and with the provision of general cultural and social facilities on their behalf. The course will be under the guidance of a committee composed of representatives of both bodies. This method of co-operation has rendered it possible to provide an international course of training to which the Institute of Technology will contribute of the best it has to offer in a particular field of science, without its being burdened with considerable work of a non-academic nature, which work is left to a body (NUFFIC) designed and equipped especially for such purposes.

Other possibilities of organizing international courses are under study, it being understood that for many reasons the normal courses provided by the Dutch universities offer fewer attractions to foreign students. Teaching, for instance, is given in the Dutch language, the field of study is a broad one, its duration extensive. The present-day world, so large a part of which is now in a state of rapid development, demands courses of short duration only, at the graduate or post-graduate level, in a circumscribed field, with English or French as the medium. If new courses are to have any chance of success, they will have to take account of such considerations. Moreover, only those fields of knowledge in which Dutch scientists and scholars enjoy a special reputation, outside as well as inside the country, should form the subject of international courses.

NUFFIC certainly does not have the monopoly of the organization of the international institutes and courses referred to here. In addition to those already mentioned, there are others in the Netherlands which originated independently of our Foundation, e.g. the International Training Centre for Aerial Survey in Delft, the Agricultural Study Centre in Wageningen and the course on Small Scale Industries, also at Delft. NUFFIC does, of course, maintain liaison with these institutions, and there is every prospect of this co-operation being intensified and in some cases of being extended still further to become an organic association.

This descriptive account must also make mention of the annual summer course held at each of the Netherlands universities in turn, the preparatory and organizational work for this course also being performed by NUFFIC. Last year the rôle of host fell to the Institute of Technology at Delft, the subject dealt with being "Communications in our Shrinking Modern World". This year it will be Nijmegen's turn, where the subject of "The Community of Mankind and Cross-cultural Relations" will be studied.

Every year the Netherlands are visited by a large number of students and ex-students from abroad, coming not merely as tourists but also to learn something, at the academic level, about our history and culture, about economic and social conditions, land reclamation and the struggle against the water. In 1956 two introductory courses, designed to meet the requirements of such visitors, were held, for the first time, and this will be done again in 1957. These courses can be given to special groups, if so desired.

One of the means frequently made use of nowadays to promote the international exchange of students is to offer scholarships or provide other special facilities. In recent years NUFFIC has been granting scholarships to about 40 people every year; originally these were granted for study at the Institute of Social Studies only, though they have since been granted for study at other institutes of higher education as well. In this way, a not inconsiderable number of foreigners have acquired a doctor's degree at one or other of the Dutch Universities with financial assistance from NUFFIC.

The offer of scholarships leads, in the first instance, to foreigners coming to the Netherlands. It is hoped, however, that in time it will promote an interchange of students. It is of great importance to many Dutch students that they should be afforded an opportunity to round off the education they have received at home by a period of study or work in another country. NUFFIC trusts that its offer of facilities to students coming from abroad will also result in hospitality being offered to students from the Netherlands by institutes in other lands.

NUFFIC plays only a modest role in the task of promoting international student traffic from and to the Netherlands. A great deal is done in this field by a large number of organizations. One has only to think, for instance, of official activity in pursuance of the cultural agreements which our country has concluded with various other countries, of the fellowship and scholarship programmes of the United Nations and the specialized agencies, of exchange with the United States under the Fulbright Act and of the work carried on by the World University Service, the Foreign Student Service and a number of students' organizations. NUFFIC is happy to work together with these other organizations to achieve this worthwhile goal in the proper team spirit.

An important means of promoting international scientific exchange — and consequently an object of NUFFIC activity — are international scientific meetings (congresses, conferences, symposia, seminars and the like). The organization of such gatherings, especially if they are of any size, is a task calling for experience, relations and a certain equipment (a trained secretariat, conference halls with the necessary apparatus for simultaneous translation etc.). NUFFIC has at its disposal equipment of this kind, which it naturally used for the organization of gatherings held under its own auspices. It is, however, only too ready to place it at the disposal of other institutes of higher education and science to assist in the organization of international meetings. The reader will come across regular mention of examples of this activity in this bulletin.

It is obvious that international co-operation can be promoted in other ways besides those mentioned so far. I need only mention the exchange of scholars, the commissioning of translations of Dutch scientific works into one of the world languages, and *vice versa,* the encouragement of research in fields of science of high importance

to the growth of healthy international relations etc. I do not, however, wish to make the catalogue too long and have therefore confined myself in this introduction to those activities which are of the greatest importance at the moment.
This task is still of modest proportions, a fact which does not, however, give rise to any feelings of regret on the part of those directing the Foundation. They know that international co-operation cannot be brought about overnight, but that the idea underlying it must ripen in many places before the results become visible. They are, however, convinced that the organization outlined above is appropriate to the situation developing in our modern world, and feel sure that this organization will gradually expand.

What, now, is the place of the periodical that lies before you in this programme of activities? In order to promote international co-operation in the manner sketched in this introduction, it is a first essential that other countries should be kept as fully informed as possible of what the Netherlands can contribute. The dissemination of such information takes place primarily, of course, through professional scientific channels, through contacts between colleagues in the different countries, between institutes here and sister-institutes abroad, through international professional journals etc. International co-operation in the field of teaching and research does not, however, rest on these professional contacts alone. The way in which it comes about often involves an extremely complicated process in which many have a hand, e.g. international organizations of various kinds, diplomatic and consular offices, politicians, government departments (Ministries of Education), universities and other scientific bodies concerning themselves with international educational travel, not to forget the press. A contribution is also made by Dutch scientific workers active in posts abroad, who are usually only too willing to help to bring about co-operation with Dutch organizations, and further by those foreigners who have studied in the Netherlands, insofar, at least, as they retain happy memories of the days they spent in our country. It is in order to keep all these persons and organizations better informed about higher education and research in the Netherlands — and thereby to strengthen international co-operation — that NUFFIC has embarked on the publication of this bulletin.

H. G. Quik.

SOME CONTRIBUTIONS OF SCIENCE TO HYDRAULIC ENGINEERING

There is an almost general tendency to regard hydraulics, as it has been handed down to us by a centuries-old tradition, as a pre-eminently empirical subject. If we take a closer look at the past, however, we see that in former centuries, too, the application of new inventions, based on scientific methods, resulted in sudden advances in this branch of engineering.

The situation in the Netherlands in the 16th century provides an excellent example of this. As a result of the subsidence of the soil, which had been going on for centuries, large areas of the country came to lie below the average sea-level. The consequence was that it became ever more difficult, if not impossible, for rain water to drain off by gravitation at low tide. The mechanical motive power for pumps, whereby this water could be drained off by artificial means, was lacking, and there was a danger that large areas of the country would be turned into marsh land, or still worse, that they would become the bottom of the sea. The situation was saved by the invention of windmills with a movable upper structure, thus enabling them to be used to drive machines for removing the water, whatever the direction of the wind. This invention not only made it possible to keep the existing land dry but also opened up ways of reclaiming new land. Thus, in the first half on the 17th century, with the help of a series of mills of the new type, a certain Leeghwater, builder of mills, succeeded in draining a number of lakes in North Holland, a very considerable hydraulic engineering achievement for that time. The process of bringing the new land into cultivation was greatly facilitated by the rise of geodesy, to which Snellius and Stevinus made important contributions.

In the 20th century the Netherlands are once again confronted with a difficult situation. The continued subsidence of the land in relation to sea-level and the high density of the population have given rise to a number of thorny problems. Higher sea-levels accompanying storm floods make it essential to provide the land with better defences against inundation. The rise in the average sea-level means, moreover, that the land lying below sea-level is increasingly threatened by the intrusion of salt water through the subsoil, which involves serious danger to intensive farming and market gardening.

In order to protect the land with its inhabitants and its capital goods it is necessary to have the best possible dikes, while freshwater basins must be built in the fight against the salt. Both these purposes can be served by shortening the coastline. The situation is complicated by the fact that the high density of the population calls for industrialization and good communications with lands overseas. Both the population and industry are consumers of increasing quantities of fresh water. The deep, open waterways leading to the sea make it easier for salt water to penetrate into the soil. In addition, it is desirable that the acreage of land under cultivation should be extended.

A number of multi-purpose projects are underway in order to achieve these partially conflicting aims as far as this is possible. In the north, there is the enclosure and

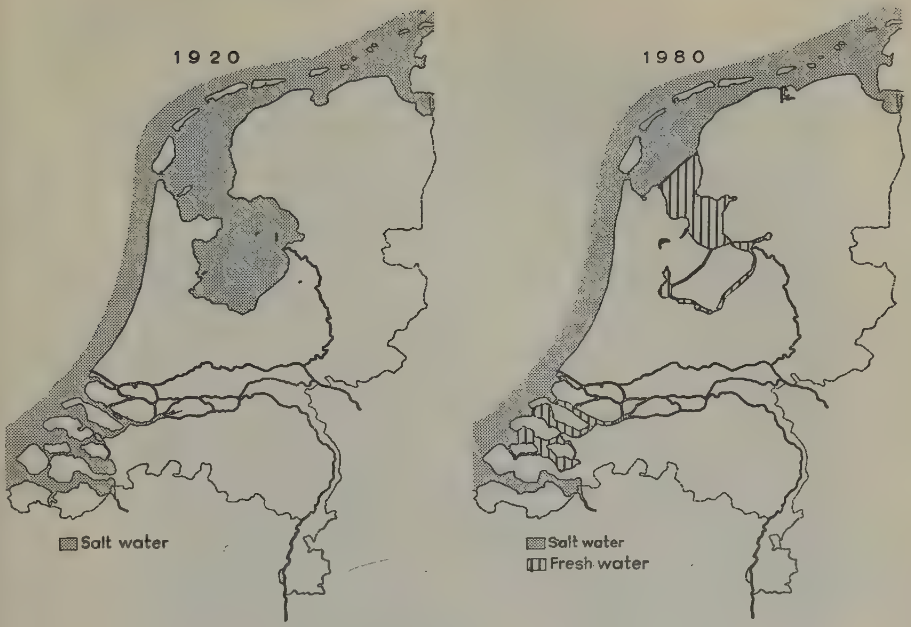


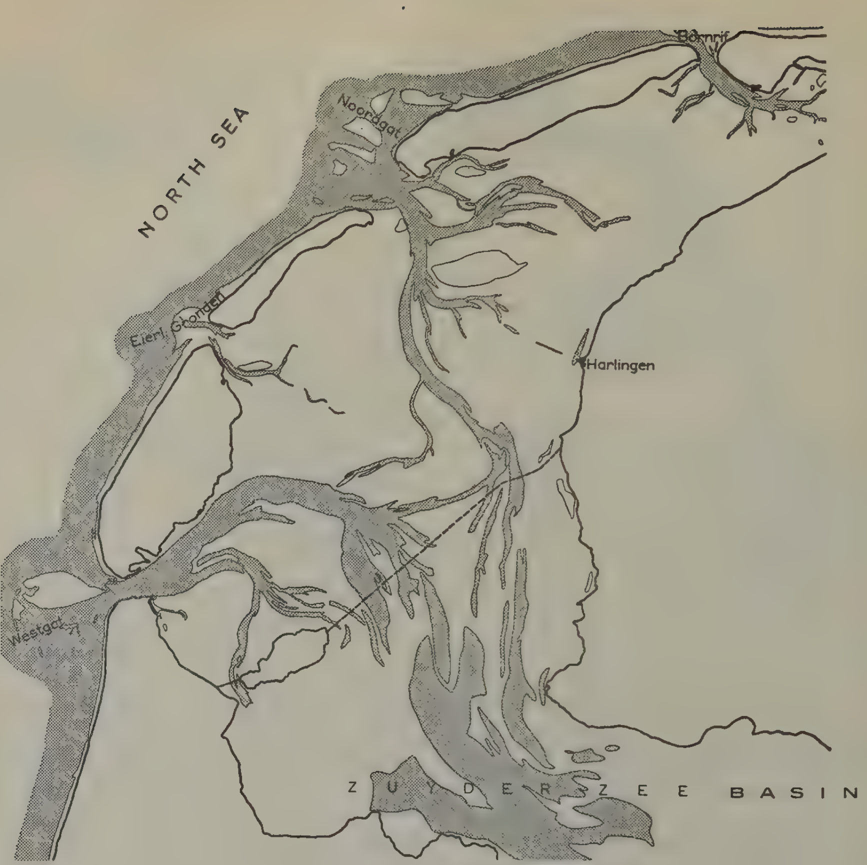
Fig. 1

Map of the Netherlands as it will appear about the year 1980, when the various reclamation projects have been completed, compared with the situation in 1920

partial reclamation of the Zuyder Zee; in the south-west, the damming-off of the deltas of the Rivers Rhine and Meuse (fig. 1).

It has only become possible to carry out these projects thanks to the mechanical aids which scientific progress has given us. Their scale far exceeds that of any other works carried out hitherto. The problems which arise cannot by any means be solved by empirical means. It is striking that hydraulic engineers are obliged to call in the help of men from an increasing number of other sciences. The recent history of hydraulic engineering in the Netherlands provides us with some interesting examples of this.

Before a beginning could be made with the enclosure of the Zuyder Zee, an inland sea covering an area of 1380 sq.miles, by a dike 20 miles long, it was necessary first of all to find out what changes would come about in tides beyond the dike and to what extent storm flood levels along the neighbouring coasts would rise. Experience already gathered on this subject was inadequate. No technically practical methods of calculation for solving the problem were known. In 1918 the Government called on the physicist, H. A. Lorentz, to help solve this problem (1). Lorentz had already won a great name for himself in the field of theoretical physics, for which work he had been awarded the Nobel Prize in 1902. A number of learned societies had made it possible for Lorentz to devote himself entirely to his research work in the field of natural science, but when he was asked to co-operate on the great national hydraulic



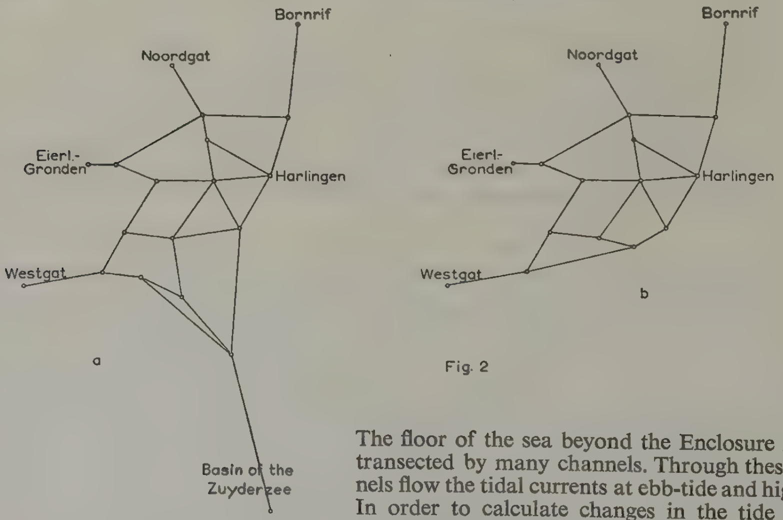
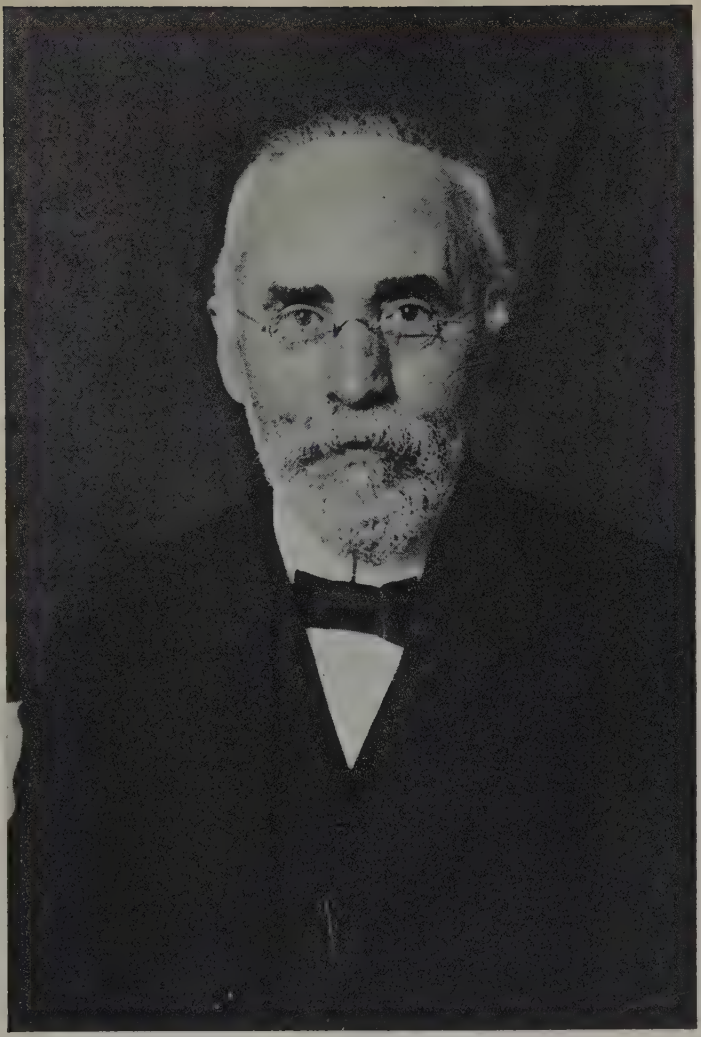


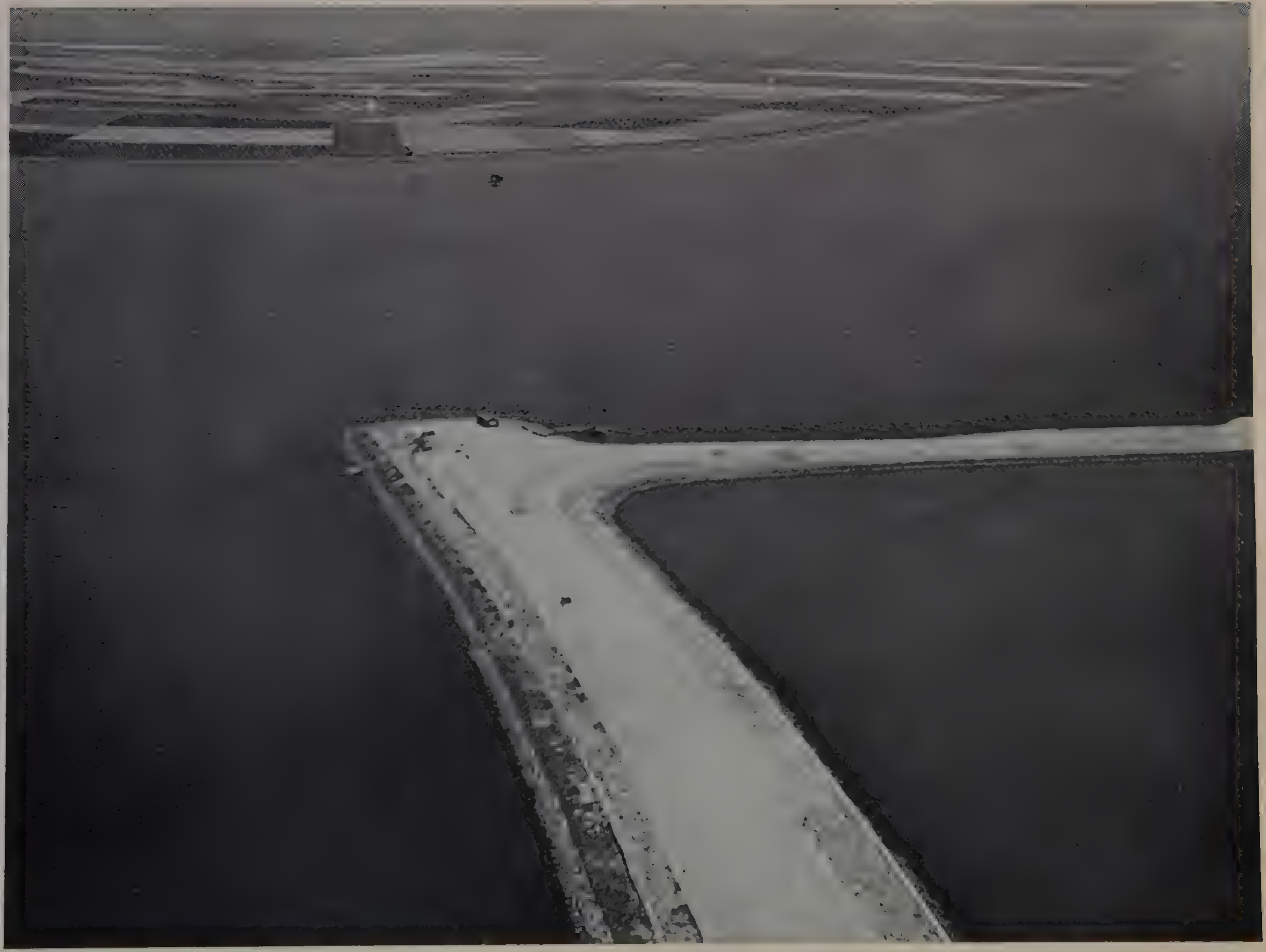
Fig. 2

The floor of the sea beyond the Enclosure Dike is transected by many channels. Through these channels flow the tidal currents at ebb-tide and high-tide. In order to calculate changes in the tide due to the building of the Enclosure Dike (following Lorentz' method) a schematic version of these channels had to be constructed. The first version (a) was used to calculate the situation before 1920, when there was no Enclosure Dike, this being done to test the suitability of the method. The second (b) was used to calculate the position after the enclosure.



H. A. LORENTZ

Photo: National Museum for the History of Science at Leyden



A recent photo of Zuyder Zee works. The land on the background has been reclaimed fifteen years ago and has now been entirely brought into cultivation. The new dike on te foreground is already separating from the sea a new region engineering project in the Zuyder Zee, Lorentz made his services available, without thought of self, and worked for a number of years on these practical problems.

The description of the behaviour of a tidal wave in a single, shallow channel meets with very great mathematical difficulty. In this case, however, it was a question of a complicated and irregular system of several channels. Lorentz succeeded in developing a method which could be used in practice to calculate the propagation of the periodic tidal wave through this system of channels (fig. 2). After this the problem of the non-periodic storm flood was tackled. These calculations were adjusted in respect of the rotation of the earth (acceleration of Coriolis), centrifugal force and wind friction over the surface of the water. At the same time account was taken of changes which would occur by reason of alterations in the shape of the network of channels itself, caused by the currents. The predictions, made as a result of these calculations by Lorentz, were confirmed by Nature, after the Enclosure Dike was completed in 1932.

Since then Lorentz's method of calculating the tide in systems of shallow channels has been applied on many occasions. It represents an important contribution to hydraulic engineering on the part of theoretical physics.

After the great storm flood of 1953 the Government appointed a committee to propose measures for providing the country with greater protection from flooding. As part of this committee's work study has been devoted to the problem of the proper height for the dikes (2). The higher the elevation of the dike, the smaller the risk of the water rising higher than its crown. Every increase in the height of the dike costs large sums of money. The amount of money one is justified in expending on increasing the height of the dike depends largely on the damage inflicted by flooding, in other words, on the value of the goods and possessions to be protected. This problem can be looked upon as a problem of insurance against loss and damage: at what elevation of the dike is the sum of the cost of the dike and the capitalized value of the risk still present at this height at the minimum?

In order to determine the value of the various quantities involved in this problem it was necessary to call in the help of experts in various fields of science. Statisticians studied the chances of various water levels being exceeded. Meteorologists investigated the physical causes of high tides in the North Sea. Economists estimated the total value of the goods to be protected. This figure does not remain constant. It can, for instance, be expected that the amount of investment will increase, such increase displaying marked fluctuations. It is necessary, therefore, to look for some average value determined over a longer period. Other economic problems lay in such questions as whether depreciation in the value of money should be taken into account, what rate of interest should be adopted, and how the loss of human lives was to be included in the calculations.

In determining the optimum height of the dike, an entirely different problem arises from the subsidence of the soil. What relative subsidence must be expected during the coming centuries? It would be possible to supply a properly-warranted prognosis if the process of subsidence during recent millennia was known.

Down to a depth of about 65 feet the soil in the lower-lying parts of the Netherlands consists mainly of peat and freshwater clay. Peat is composed of various kinds of plants, varying according to whether it has developed below water, above water, or near the surface of the ground-water. The remains of the plants of which the peat is composed are, however, in so advanced a state of decay that it is no longer possible to identify them. Fortunately, however, pollen grains have been preserved in excellent condition in the peat. In 1912, the Swedish scholar Lennart van Post published a method of determining the origins of peat by analyzing the grains of pollen. By applying this method it is possible to ascertain the height (in relation to the level of the ground-water at the time concerned) at which the peat occurring at various levels in the soil of the Netherlands was formed.

It would be of great importance to the study of soil subsidence if it were also possible to determine the age of these peat layers. Here help came from a highly unexpected source, namely from nuclear physics.

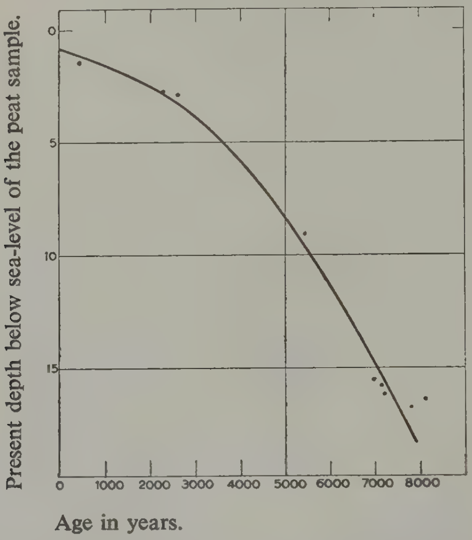


Fig. 3

Subsidence of the soil in a place in the west of the Netherlands during the last 80 centuries.

A few years ago Professor W. F. Libby (3) of Chicago made the important discovery that as a result of cosmic radiation the radioactive isotope of carbon ^{14}C is present in the atmosphere in small quantities in the combined form of carbon dioxide. This carbon dioxide is assimilated by plants whereby these too become slightly radioactive, which radio-activity gradually disappears. After the passing of 5570 years, half the lifetime of ^{14}C, half of the original radio-activity is still present. Libby uses this to determine the constituents of wood or other plant remains. Since the radio-activity of ^{14}C is weak, the measuring apparatus must be highly sensitive. The weak radiation was absorbed in the walls of a counting tube. It was necessary, therefore, to introduce the material into the tube. Libby brings the purified carbon into contact with the inside of the tube in powder form. The Dutch professor Hl. de Vries has in many respects simplified and improved the technique of age determination by measuring the radio-activity of carbon (4). He introduces the purified carbon into the counting tube in gaseous form. This makes it possible for measurement to be carried out as routine work. By excluding disturbing influences, Hl. de Vries hopes to determine with sufficient accuracy the age of samples as much as 40,000 years old. The age of several hundred samples of peat extracted from the soil of the Netherlands has been determined with the help of this method (fig. 3). By at

the same time analyzing the pollen grains contained in these samples, an insight has been obtained into the chronology of the subsidence of the soil of the Western Netherlands during the last 8000 years.
The geo-physicist Vening Meinesz (5) has made calculations in order to find out what part of this relative sinking of the soil is caused by local subsidence of part of the earth's crust as a result of the re-establishment of isostatic equilibrium after the withdrawal of the ice which covered Northern Europe during the last Ice Age.

It is necessary time and again to call in the co-operation of representatives of many branches of science for the work of assembling data, of developing new aids and methods, for the critical evaluation of methods handed down from the past, and for adapting the project to the needs of society. As a result of this, hydraulic engineering, freed from the restrictions empiricism imposes, can accomplish tasks of a size and scope hitherto unknown.

L. J. MOSTERTMAN. (6)

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(1) J. TH. THIJSSE "The Enclosure of the Zuyder Zee" — In a collection of articles on Lorentz (to be published shortly).

(2) D. VAN DANTZIG Economic decision problems for flood prevention. Econometrica 24 (1956) p. 276.

(3) W. F. LIBBY Radio-carbon Dating. University of Chicago Press (1951).

(4) HL. DE VRIES and G. W. BARENDSEN Radio-carbon dating by a proportional counter filled with carbon dioxide. Physica 19 (1953) p. 987.
HL. DE VRIES The contribution of neutrons to the background of counters used for ^{14}C age measurements. Nuclear Physics 1 (1956) p. 477.

(5) F. A. VENING MEINESZ Earth-crust movements in the Netherlands resulting from Fennoscandian postglacial isostatic readjustment and Alpine foreland rising. Proc. Kon. Ned. Ak. Wetensch. Series B, 57 (1954) p. 142.

(6) MR. MOSTERTMAN (Hydraulics Laboratory, 61, Raam, Delft) will be the director of studies of the forthcoming international courses in hydraulic engineering announced in the "International Courses" section of this bulletin.

H. A. LORENTZ

HIS CREATIVE GENIUS AND PERSONALITY

In the preceding article mention was made of the work of Prof. H. A. Lorentz in connection with the enclosure of the Zuyder Zee, and the publication of a book on Lorentz is announced elsewhere in this Bulletin.
Here now follows a character sketch of this scholar, written (originally in the German language) by Albert Einstein on the occasion of the exhibition in commemoration of Lorentz's hundredth birthday, held in the National History of Science Museum at Leyden in 1953. (Editor)

At the turn of the century, H. A. Lorentz was regarded by theoretical physicists of all nations as the leading spirit; and this with the fullest justification. No longer, however, do physicists of the younger generation fully realize, as a rule, the determinant part which H. A. Lorentz played in the formation of the basic principles of theoretical physics. The reason for this curious fact is that they have absorbed Lorentz' fundamental ideas so completely that they are hardly able to realize to the full the boldness of these ideas, and the simplification which they brought into the foundations of the science of physics.

When H. A. Lorentz started to write, Maxwell's theory of electromagnetism was already generally known. This theory, however, suffered from a curious fundamental complexity, which prevented its essential features from being conspicuously clear. True, the vectorial field concept had ousted that of action at a distance; but the electric and the magnetic field were not yet conceived as being original entities, but as conditions governing ponderable matter, which was treated as existing in a continuous form. As a result, the electric field appeared to be split into the vector of the electric field strength, and the vector of dielectric displacement. In the simplest case, these two elements were linked together by the dielectric constant; in principle, however, they were regarded and treated as two independent entities. Similar ideas prevailed in respect of the magnetic field. In conformity with this basic conception, empty space was treated as being a special case of ponderable matter, in which the relation between field strength and displacement only appeared to be particularly simple. And, more especially, this conception entailed that the electric and the magnetic field could never be conceived as independent of the state of movement of matter, which was regarded as the carrier of the field.

A study of Heinrich Hertz' investigation into the electrodynamics of moving bodies will give the reader a clear insight into the conception, prevalent at that time, concerning the electrodynamics of Maxwell.

It was here that H. A. Lorentz' act of intellectual liberation set in. With great logic and consistency, he based his investigations on the following hypotheses:

The seat of the electromagnetic field is empty space. In this field there is only *one* electric, and *one* magnetic field vector. The electromagnetic field is created by atomistic electric charges, to which the field, in turn, reacts pondero-motorically. The only link between the electromotoric field and the ponderable matter lies in the fact that elementary electric charges are intimately bound up with the atomistic constituents of matter. For the latter, Newton's law of motion is valid.

On this — thus simplified — foundation, Lorentz based a complete theory covering all electromagnetic phenomena known at the time, including the electrodynamics of moving bodies. It is a work of rare clarity, logical consistency, and beauty, such as has been achieved only rarely in any empirically based science. The only phenomenon whose explanation could not be given completely — i.e. without additional assumptions — was the famous Michelson-Morley experiment. But it would have been unthinkable for this experiment to lead to the special relativity theory without the localization of the electromagnetic field in empty space. The really essential step forward, indeed, was precisely Lorentz' having reduced the facts to Maxwell's equations concerning empty space, or — as it was then called — the aether.

H. A. Lorentz even discovered the "Lorentz transformation", named after him, though he was unaware of the fact that it belonged to a wider group. For him, Maxwell's equations concerning empty space applied only to a given system of coordinates, which, on account of its state of rest, appeared preferable in comparison to all other existing systems of coordinates. This was a truly paradoxical situation, since the theory appeared to restrict the inertial system more than classical mechanics. This circumstance, proving as it did, quite incompatible with the empirical standpoint, simply *had to* lead to the special relativity theory.

As I was frequently in Leyden on fairly long visits, thanks to the thoughtful kindness of Leyden University, and staying now and then with my dear and unforgettable friend Ehrenfest, I often had an opportunity to attent H. A. Lorentz's lectures, which he regularly gave to a small circle of younger colleagues, after his retirement from his general professorship. Everything that emanated from this supremely great mind was as clear and beautiful as a good work of art; and one had the impression that it all came out so easily and effortlessly as I have never experienced it from anyone else.

If we younger ones had known H. A. Lorentz only as a great luminary, our admiration and veneration for him would already have been of an extremely special kind. But what I feel when I think of H. A. Lorentz is not covered by a long way by that veneration alone. For me personally, he meant more than all the others I have met on my life's journey.

Just as he mastered physics and matehematical structures, so he mastered also himself, — with ease and perfect serenity. His quite extraordinary lack of human weaknesses never had a depressing influence on his fellow-men. Everyone felt his superiority; no one felt depressed by it. For, although he had a keen insight into human nature and human relationships, he had a charitable kindness towards it all. His influence was never a dominating, but always a serving, helping one. He was exceedingly conscientious, without, however, making any particular matter appear unduly important. From this, he was protected by his fine sense of humor, which reflected itself in his eyes and in his smile. And it was quite in keeping with this that, with all his devotion to scientific study, he nevertheless was perfectly aware that the human intellect cannot penetrate very deeply into the essential core of things. It was not until my later years that I was able fully to appreciate this half sceptical, half humble disposition.

Notwithstanding sincere effort, words — or, at any rate, my words — cannot do justice to the subject of this brief essay. I would therefore conclude by quoting two short pronouncements by Lorentz himself, which made an especially deep impression on me:

"I am happy to belong to a nation which is too small to commit great stupidities".

And to a man who, in a conversation during the first world war, attempted to convince him that force and violence alone determine the fate of mankind, he replied: "It is conceivable that you are right; but in such a world I should not like to live".

A. EINSTEIN.

HUNDREDTH ANNIVERSARY OF THE BIRTH OF PROF. C. SNOUCK HURGRONJE

Last month, to be precise on February 8th, it was 100 years ago that the great Islamic scholar, Christiaan Snouck Hurgronje, was born in the Dutch village of Oosterhout. The anniversary was commemorated in various Dutch newspapers, a number of interesting articles being devoted to Snouck Hurgronje's life and work. The anniversary was also the occasion for a number of meetings on February 20 in the Snouck Hurgronje House at Leyden, organized by the Oriental Society, of which Professor Snouck Hurgronje was one of the founders.

Christiaan Snouck Hurgronje began at Leyden by studying geology, but it was not long before he was devoting himself exclusively to the study of the Semitic language and its literature. He took his doctor's degree (with honours) at the early age of 24, with a dissertation, entitled "Het Mekkaanse Feest" (The Feast of Mecca). After a period as lecturer at Leyden University he came to the conclusion that the only proper way to investigate Islamic institutions and customs was by personal observation and accordingly he left in 1884 to spend some years in Mecca, a practically inaccessible stronghold for non-Moslems. In 1889 he went to what was in those days the Dutch East-Indies as Government adviser there, assisting General Van Heutz among other things in his struggle to pacify Achin. From 1898 onwards he was adviser on Indonesian and Arabian affairs. Back in Holland he held a professorial chair at Leyden from 1906 to 1927 and from 1907 on acted as adviser to the Netherlands Government on Indian and Arabian affairs.

He wrote of his experiences in Mecca in a book of two volumes, while his years in the Indies produced among other things a work entitled "De Atjehers" (The Achinese). During the first world war he wrote his famous polemical article in the *Gids* on "The Holy War, Made in Germany" in which he attacked German propaganda of the time, designed to mobilise the Islamic world to the cause of the Central Powers via Germany's ally, Turkey. His six volumes of Miscellaneous Writings entitled "Verspreide Geschriften" have won wide recognition and this year the "Ambtelijke Adviezen (Official Recommendations) van C. Snouck Hurgronje" have been published.

Snouck Hurgronje's significance lies principally in the fact that he belonged in the Netherlands (and in the Western world as well) to those who have given us greater knowledge and consequently more understanding of the motive forces at work in the world of Islam. This he did in a period when the chief countries of Islam were still completely under western political influence, although men of foresight were even then predicting that it would not be long before this political influence would disappear. What he wrote in the Dutch journal the *Gids* in 1886 is characteristic of his views on this subject: "What can save us if several million Mohammedans, united by fanaticism, no longer wish to enjoy the blessings of our administration? In such a situation tact, acquired through experience and guided by proper experience of the peculiarities of Islam, can achieve much here, very much. And if we are guided by motives higher than a desire to hold on to what we have, is it not then our moral duty to the world religion professed by millions of the subjects of our kingdom, is it not our duty to Islam, to substitute a little sound knowledge for the nonsensical notions at present enjoying general acceptance? This would certainly not be a luxury". Great prophets often enjoy little recognition in their country during their own lifetime. But this can hardly be said of Snouck Hurgronje. By his teaching at Leyden he awakened enthusiasm in hundreds and hundreds of students for the study of Islamic institutions, and if nowadays many Dutch experts are sent out by the United Nations to numerous Islamic countries to give technical assistance, that is certainly not in the last place due to the way Snouck Hurgronje and others in the Netherlands encouraged interest in everything that had to do with the world of Islam. Then, too, his advice was always highly estimated by the Netherlands Government. When he was once asked whether one could make the Imam of Yemen a present of a porcelain tea service, although the tea service bore a design of living figures (forbidden by Islam), the professor replied that this did not seem to be the greatest difficulty, but that since it was not the practice at the time to make use of a tea service the gift would probably be as welcome to the imam as the gift from the imam of a handsomely decorated camel saddle would be to the Queen of the Netherlands. Such an anecdote shows that Snouck Hurgronje was certainly not without a sense of humour.

In the course of his long life — he was almost 80 when he died in 1936 — Snouck Hurgronje delivered about 1400 weighty official recommendations (1). Together with his colleague, Professor C. van Vollenhoven, he helped to awaken a greater interest in the national institutions of the Indonesian and other Islamic peoples on the part of the Netherlands Government and among the general public in Holland. There has since been some doubt in the Netherlands as to whether we have not concentrated too rigidly on cultivating such institutions (adatrecht) and on preserving the typical Oriental village economy, since as a result of this, the leap up from the peasant level of this economy to the top flight of the western-influenced intellectual group in the new sovereign states has become an extraordinary big one. Then, too, the whole problem of the confrontation of different cultures, also witnessed in the new Turkey after the first world war, has been brought up again. On the one hand there is a justifiable wish to build up the new state on one's own lines and a typically western pattern cannot and may not be chosen. On the other hand, however, modern technics in a rapidly changing world make it necessary to abandon many archaic methods which are often regarded as based on principles still very much alive in these rural economies. In such circumstances it will not always be easy to forge links between the advanced upper levels of the population and the rural masses, still living largely under feudal conditions. We must, of course, wait and see what course developments will take in the countries concerned.

All this cannot, however, detract in any way from Snouck Hurgronje's significance, for without the information he supplied with his pioneering work we should be less equipped to follow the course of events than we are today and to judge them by more or less objective standards.

H. J. Roethof. (2)

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(1) The first volume of the "Ambtelijke Adviezen van C. Snouck Hurgronje, 1889 to 1937" was recently published, in Dutch, by Martinus Nijhoff, The Hague.

(2) Dr. H. J. Roethof is a journalist on the staff of one of the large Netherlands daily newspapers.

INSTITUTIONS[1]

THE INSTITUTE OF SOCIAL STUDIES

Information: The Rector, Institute of Social Studies, 27, Molenstraat, The Hague.

AIMS OF THE INSTITUTE

The Institute of Social Studies aims at promoting international research and training in the social sciences, with special emphasis on problems of rapid social change and economic development.

SHORT HISTORY

The Institute of Social Studies was created in 1952 by the ten Universities of the Netherlands as a joint institution. A recommendation for the establishment of the Institute had been prepared by a Royal Commission, appointed in 1950. It was based on the conviction that the teaching and research conducted by the Netherlands universities should be made more accessible to people from other countries and that the cultural exchange thus obtained would be an important contribution in the field of international scientific cooperation. It was decided to concentrate the Institute's activity at the postgraduate level, providing its students with a background for responsible leadership in various fields of public service. The fulfilment of this and further tasks was entrusted to the Netherlands Universities Foundation for International Cooperation (Nuffic), in which the ten Netherlands institutions for higher education, both private and governmental had an active share, under the honorary chairmanship of His Royal Highness the Prince of the Netherlands.

Under the supervision of Nuffic, the Institute started its activities on October 14, 1952 with a two-year course in Social Sciences. The Institute gradually expanded and modified its teaching and research programmes to give them their present form. When this stage of development had been reached, the initiating body, Nuffic, granted the Institute its own charter as an independent Foundation (officially entitled the "Stichting Internationaal Instituut voor Sociale Studiën)" on March 24, 1956.

THE ORGANIZATION

The Institute is organized as a Public Foundation, headed by a Board of Trustees, whose members — not exceeding seven in number — are appointed by the Minister of Education upon recommendation of the Board of Governors of Nuffic.

According to Dutch Law (art. 149 of the University Education Act), it is a private Institution of Higher Education.

Its direction is entrusted to the Rector, who is assisted by a academic staff and administrative officers. The teaching programmes are designed with the assistance of an Advisory Committee, chosen from among members of the faculties of the Netherlands universities. They are carried out by members of the Institute staff and faculty members from the Netherlands universities and from abroad, as well as by other experts.

The Institute is housed in the "Oude Hof", a former Royal Palace at The Hague, that was made available for the present purpose in 1952 by Her Majesty Queen Juliana. The building has residential accommodation for approximately seventy students. It is located in the centre of The Hague and has an extensive garden. The Institute has a reference library and reading room, and participants in the Institute's programmes also enjoy facilities provided by the libraries of the Government, the universities and the Peace Palace.

THE PROGRAMMES OF TEACHING AND RESEARCH

The Institute provides the following courses of study:

(I) a Course in Social Sciences, lasting from sixteen up to twenty one months, starting each year in the middle of September;

(II) a Course in Public Administration, lasting six months, to be held each year from January to July;

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[1] This section does not pretend to mention all the scientific institutions of importance in one issue. An attempt will be made in this and in consequent issues, however, to draw a picture of all those scientific institutions whose international orientation is clear from their organization and activities.

(III) a Course in Economic Planning and Social Accounting, lasting six months, to be held each year from Januari to July;

(IV) a Course in Social Welfare Policy for low-income countries, lasting six months, to be held each year from September to April of the following year;

and also:

(V) guidance and facilities for individual research programmes in the Social Sciences.

The Institute's research programme is carried out by the academic staff, by students or by special research assistants in close association with the teaching programmes. It consists of the systematic editing of documentation material, syllabuses and papers produced in the course seminars [1] as well as in separate research projects on specific topics of the social sciences [2]. The technical centre for documentation is the Institute's library, in which library the results of the research programmes are assembled. In certain cases they are also published by the Institute.

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[1] *Example:* A study of Ethiopia during the Italian regime.

[2] *Example:* A bibliography on "Social Change as influenced by Technological Change" compiled by the Institute at the request of the International Social Science Research Council (Unesco) in Paris.

INTERNATIONAL TRAINING CENTRE FOR AERIAL SURVEY

Information: The Dean, International Training Centre for Aerial Survey, 3, Kanaalweg, Delft.

The International Training Centre for Aerial Survey at Delft, popularly known as "Delft I.T.C.", was established by the Institute of Technology at Delft and the Institute of Agriculture at Wageningen, which institutions are both represented on the Board of Governors.

It started its activities in 1951 and aims at promoting the science of aerial survey and providing training at the university level in its various applications.

It is not surprising that in many modern technical and economical development schemes aerial photography should play an important role, because it provides many of the necessary basic data for such projects. In the past years, the application of air photography has not been developed for cartographic purpose only; the importance of the interpretation of the photographic image also for the inventarization of natural resources and for economic planning is gradually increasing.

The structure and organization of the I.T.C. are based on the following considerations:

1. International technical assistance is effective only if the manpower of a country is developed to such an extent that the country in question is able to carry out the necessary work itself;
2. The trend to accelerate such development by sending students abroad for a full university education does not sufficiently meet the needs of to-day;
3. Students who stay abroad for a long time sometimes become strangers to their own country, which is particularly true if there is a large difference in the standard of living. This can be avoided by a general professional education in their home country, followed by specialized training abroad of about one year's duration and preferably preceded by some experience at home;
4. Such training should be very thorough and fully adapted to the individual needs of every student, according to his preliminary education and to his future task;
5. A special system of this kind does not fit into the frame work of a traditional university education, but can be effected only in a specialized institute, the organization and equipment of which enable maximum results to be achieved. Accordingly, lectures and instruction must be given in one or more world languages;
6. The students should live together in an international environment, which condition will be fulfilled if this institute is residential.

For five years now the I.T.C. has been working in accordance with these principles. In this period a mere handful of students has increased to a regular flow; the staff has been trebled and a new building constructed, in which both institute and students are housed.

Study is divided into five different sections according to the various applications of air photography:

1. *Photogrammetry,* including cartography, topograhpy and theory of errors.
2. *Photogeology.*
3. Use of air photographs for *soil survey* and other agricultural purposes.
4. The same for *forestry* and other sylvicultural pursoses.

5. *Aerial photography* and survey navigation.

Regular courses in photogrammetry are organized for two different categories: those who desire to be trained as highly qualified operators and those who wish to obtain complete instruction, training and practical experience, as required for future members of scientific staffs. Consequently, two different degrees are awarded after the prescribed examinations have been passed: I.T.C. *Photogrammetric Technician* and I.T.C. *Photogrammetric Engineer*. For those who have obtained an adequate Bachelor's degree elsewhere, an I.T.C. Photogrammetric Engineer Degree is equivalent to a Master's Degreee in Photogrammetry.

The course for the first degree takes about one year, the course for the second, for those who start without any special knowledge in this field, from 15 to 24 months. Students who wish to specialize in aerial photography may obtain the degree of I.T.C. *Photographic Engineer*, while in the other sections a *Certificate of Qualification* can be awarded. Naturally, it is also possible to study special subjects or to take a refresher course.

Of the different sections, photogrammetry is most in favour, but the younger interpretation techniques are gradually attracting more attention.

In this respect mention may be made of a method of photo-analysis developed by the I.T.C.'s section of soil survey and already being applied in various countries. Scientific research is carried out on an international basis; the organization of the six European countries, working closely together in the field of experimental photogrammetric research within the framework of the O.E.E.C. has its headquarters in the I.T.C.

In addition to training and research work, members of the I.T.C. staff render services as experts and consulting engineers. Facilities also exist for undertaking agricultural or sylvicultural surveys.

INTERNATIONAL COURSES

(for basic data on each course, see last pages of this bulletin)

INSTITUTE OF SOCIAL STUDIES

The Institute of Social Studies at The Hague has announced the following four courses.

1. *Two-year Degree Course in the Social Sciences, 1957—1959.*

The central theme of this course, which will begin on September 18, 1957, and will end early in 1959, is economic development and social change in the widest sense. This general subject matter will be approached jointly by scholars belonging to different branches of the social sciences, notably Economics, Sociology and Government and Administration. In the first term these subjects will be dealt with in classes and tutorial classes. During the second term classes will be organized dealing with various domestic and international issues. During the third and fourth term seminars on current problems of social change and economic development will be held. The case studies selected for these seminars will be the development of Jamaica and of Ceylon. The faculty of the course consists of members of the Institute's academic staff, professors of the Netherlands universities and guest lecturers from the Netherlands and from abroad. Participants will be selected from many parts of the world and in such a way that the various social sciences are equally represented. Each participant will have to carry out a carefully planned individual programme of studies, culminating in the presentation of a thesis. Upon successful completion of the course participants will be awarded the degree of Master of Social Sciences.

2. *Six-month Diploma Course in Social Welfare Policy, 1957—1958.*

This course deals with social policy in its widest sense including "social work", "assistance sociale", "social welfare action" or "social services" with a special view to low income countries in the process of rapid development. The course will be divided into two terms: the first, from September 18 to December 10, 1957, will deal with existing approaches to the problems under discussion. The second, from January 4 to April 2, 1958, will be entirely devoted to research into flexible sociale welfare planning in societies that are in a stage of rapid social change. Between the two terms a period will be reserved for the observation of special types of social work or social

Students of the Institute of Social Studies from India, Pakistan, China, USA, Burma, Spain, Israel and Hungary

The new building of the International Training Centre for Aerial Survey at Delft action in the field. University professors and other experts, both from the Netherlands and from abroad, will do the teaching and lead the seminars. Participants succesfully completing the course will be awarded a diploma.

3. Six-month Diploma Course in Public Administration, 1958.

The teaching in this course, that will be held from January 13 to July 11, 1958, will be concentrated upon problems of the general administrator's comprehensive approach to conditions of accelerated social and economic change. The approach will be that of comparative public administration, in order to afford insight into the processes and techniques of different administrations seen against their own particular background. The character of the course will be considerably influenced by the circumstance that it brings together participants from many nations holding responsible administrative positions in their own countries. The main categories of subject covered by the course are: the theory and practice of public administration, economic aspects of public administration, social aspects of public administration, group and individual research in problems of public administration. Those successfully completing the course will be awarded a diploma.

4. Six-month Diploma Course in Economic Planning and Social (National) Accounting, 1958.

This course, to be held from January 13 to July 11, 1958, envisages a study of measures for increasing per capita income especially in countries which are in a stage of accelerated change and of systematic accounting in respect of the necessary economic data. The teaching is given at postgraduate level by university professors and other experts from the Netherlands and from abroad.

INTERNATIONAL TRAINING CENTRE FOR AERIAL SURVEY

The I.T.C. has recently moved into its new premises. It is a building in Delft of eight storeys, the first four being designed to house the centre's unique and costly collection of photogrammetrical survey machinery and its laboratories. Above these four "technical" storeys are four residential floors with fifty rooms to accommodate the same number of residential students from abroad. A complete kitchen with dining hall and laundry make up the rest of the domestic quarters of this section of the institute. All this together forms the Delft I.T.C. Students' House.

The building is in the modern style and very attractively arranged; it is also very conveniently situated, lying as it does between the Geodetic Institute of the Institute of Technology and two important production enterprises in the surveying field, *viz.*, the K.L.M. Aerocarto Company and the Geometric Department of the State Water Board. Details of the courses offered by the I.T.C. will be found in the "Institutes" section of this Bulletin. That the importance of this centre for aerial survey, under the direction of Professor Schermerhorn, is recognized beyond the Netherlands' frontiers is apparent from the increasing number of pupils coming from practically all countries on this side of the Iron Curtain (at the moment there are between forty and fifty of them), and also from the fact that the Headquarters and Executive Committee of the Organization of the six European countries working together within the framework of the O.E.E.C. on experimental photogrammetrical research are housed in the I.T.C.

DELFT INSTITUTE OF TECHNOLOGY — NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL COOPERATION

INTERNATIONAL COURSE IN HYDRAULIC ENGINEERING

The greater part of the land surface of the Netherlands owes its very existence to the knowledge and practice of important aspects of hydraulic engineering, and an experience of long standing has been built up in this country [1]).

For many years to come there will be ample opportunity to watch and study all phases of hydraulic engineering from preliminary research and design up to final construction and operation. Typical examples of projects now in progress or in course of preparation are:

a. the enclosure and partial reclamation of the Zuyder Zee and the development of the reclaimed land for agricultural purposes.

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[1]) See the leading article on hydraulic engineering in this Bulletin.

b. damming of the delta of the rivers Meuse and Rhine, a huge multipurpose project which aims at protection against storm-floods and improved fresh-water control and navigation.

c. canalizing one of the arms of the river Rhine.

d. improving large tracts of crop soils by more effective water control.

e. the construction of harbours, coastal protection works, locks and sluices, movable weirs and pumping stations.

On Tuesday, October 22, 1957 a one-year's advanced course in hydraulic engineering will begin at the Delft Institute of Technology, the centre of educational and scientific activity in this field. Members of the Faculty and prominent engineers belonging to the Government departments and industry will treat a variety of subjects. Lectures, individual instruction and group discussions will alternate with excursions and practical work on one of the hydraulic works now under construction. The hydraulics and soil-mechanics laboratories will be open to participants in *the course*. All instruction will be in English. The course does not lead to an academic degree; a Diploma in Hydraulic Engineering will, however, be awarded to those participants who have made sufficient progress during the course.

The programme of study has been adapted as far as possible to practical requirements. Each participant will need thorough instruction in the subjects he will encounter in his later career, and should not pursue a programme of study irrelevant to conditions in his own country or to his future position there. For this reason the course allows for a choice from among three alternative branches of study:

1. Tidal and coastal engineering (including harbours)
2. Rivers and navigation works
3. Reclamation (including ground-water recovery)

In principle each participant may attend lectures outside his particular branch of study without extra charge.

Subjects to be treated:

Theory of tides; wave motion; theory of silting and scour; ground-water flow; mechanics of alluvial soils; applied statistics; hydrology; dredging and dredging equipment; foundations and earth-retaining structures; dikes and revetments; tidal and non-tidal rivers; movable weirs; navigation canals and locks; construction of the harbour entrance; harbour planning; harbour equipment; coast erosion and protection; reclamation and polders; improvement of saline soils, drainage and irrigation; ground-water recovery.

TRAINING COURSES AND RESEARCH FOUNDATION

INTERNATIONAL COURSE ON SMALL-SCALE INDUSTRIES

From November 1957 until the end of April 1958 the Training Courses and Research Foundation, affiliated to the Delft Institute of Technology, will organize for the third time an International Course on Small-scale Industries.

The course is based on the experience of several years of research carried out by the Foundation in scientific management and industrial organization in the field of small-scale industries.

The course covers theoretical and practical training in investigating and solving the specific problems of small-scale industries including a methodology which can be applied to the establishment of new industries.

The course is divided into a General Programme, applicable to all participants and a Special Programme, drawn up for each participant individually, according to his particular interests.

The International Course on Small-scale Industries aims to be of special interest to persons associated with:

Government departments, dealing with the promotion or development of small-scale industries;

Centres for research, training and consulting services;

Management of government or private firms;

Organizations, co-operatives, etc., rendering technical, financial or commercial assistance in the field of small-scale industry.

The course is conducted at the post-graduate level and is open to holders of B.Sc. or M.Sc. degrees in Engineering or equivalent degrees of recognized universities.

Admission to the course, which will be given in English, is limited to 15 participants, to ensure intensive tuition in a small, postgraduate group.
Previous courses have been attended by participants from Brazil, Burma, Ceylon, Chile, India, Iran, Korea, Nepal, Pakistan, the Philippines, Thailand, Turkey and Yugoslavia.

EUROPEAN COURSE ON SMALL-SCALE INDUSTRIES

From June 12—28, 1957 the Training Courses and Research Foundation at Delft will organize a course on increasing productivity in small industries, especially designed for executive personnel of advisory services, training institutes, employers' associations, trade-unions, productivity centres, etc.

The programme includes *inter alia*:

- the basic problems underlying productivity in small industries
- selected techniques for increasing productivity and their practical application
- joint activities to promote productivity e.g. training, consulting, financing.

THE HAGUE ACADEMY OF INTERNATIONAL LAW

1957 SUMMER SESSION

The Hague Academy of International Law is a centre of advanced studies in public and private international law and associated sciences. It was established in 1923 with the support of the Carnegie Endowment and has its seat at the well-known Peace Palace, which is also the seat of the International Court of Justice and the Carnegie Foundation's Library. The Academy is international by virtue of both its organization and the programmes it offers. The academic administration is entrusted to an international Curatorium, while the financial and technical management is entrusted to the Administrative Council, which at the same time administers the Carnegie Endowment of the Peace Palace.
Instruction is given by teachers of great competence from all over the world; students likewise come to the Academy from all countries, regardless of political ideology 1). The Academy's sessions are not spread out over the year (for this would automatically exclude the possibility of attracting famous university professors and advanced students, busy at work in their own university), but are held only in the summer. Before the war, the Academy had two Summer Sessions, but since the war the number has been reduced to one, lasting from the middle of July to the middle of August. Instruction was originally given only in French, but since the war English has been introduced as the second language, approximately half of the courses being given in English and the other half in French. Translations are provided by interpreters, who are usually international lawyers themselves 2). The courses are delivered in the mornings, whilst seminars and discussion groups are held on three afternoons every week. The nature of the course and its varied attendance makes it impossible to issue one uniform type of certificate to all students. The Academy therefore distinguishes between the Certificate of Attendance, awarded to those who have regularly followed a prescribed number of courses and a Diploma (instituted in 1950) which can be awarded to advanced international lawyers after a rigorous examination.

It may be of interest to give some figures concerning the Academy's students. In 1956, 377 students representing 50 different nationalities attended the Academy's courses. The largest groups were: Netherlands 66, Germany 65, France 38, United States 24, Great Britain 19, Greece 18, Italy 17, Yugoslavia 13, and Ireland 10. 19 students came from Latin America, 38 students from Asian countries and 6 from the Middle East. Their division according to professions was: university students 145, practising lawyers 73, diplomatic, consular and civil servants 47, magistrates 39, professors 10, military officers 5 and various other professions 58. Of these students, 242 obtained a Certificate of Regular Attendance and only 3 students the Diploma.

One of the conclusions that can be drawn from the details provided above is that the Academy is a most interesting meeting

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1) The Academy provides teaching free of charge and assists students to find inexpensive lodgings in private houses.

2) The lectures of the Academy are published in „Recueil des Cours", which has become an important source of information on international law.

ground precisely because of the variety of nationalities and professions it attracts, and, it should be added, in view of the variety in the students' ages. One cannot live for a full month at The Hague, together with hundreds of others, sharing lectures, seminars and social activities with them, without gaining at least a little understanding of their problems and views. It is possible to sum up a long series of "hot" international issues that come up for discussion in the Peace Palace in two completely different ways: One is by formal litigation before the International Court of Justice, the other is in easy and informal discussion at the lunch table or on the beach at Scheveningen, the Hague's seaside resort.

At the Academy this international understanding, manifest in all centres of international teaching, is called "l'esprit de la Haye". It was this same spirit of belonging together that prompted the students of the Academy to found, in 1923, the Association of Attenders and Alumni of The Hague Academy of International Law, which tries to maintain and strengthen the ties of international friendship established at the Academy. The Association organizes social events during the academic session and an annual spring congress of international law in one of the countries where it has a national group. It also publishes scientific articles by its members in its "Annual".

The programme of the 1957 Summer Session offers the following series of lectures:

General Course.

Contemporary sociological theories and international law.

Legal questions arising from the evolution of atomic science.

The present evolution of the laws of war.

The definition of aggression and international law — recent developments.

Present tendencies in the codes and most recent draft laws concerning private international law.

International administrative jurisdictions and their case-law.

Legal problems of European integration.

Public international law as applied by national tribunals.

Procedural problems in international jurisprudence.

Comparison of legal and diplomatic processes.

CENTRE FOR STUDIES AND RESEARCH IN INTERNATIONAL LAW AND INTERNATIONAL RELATIONS OF THE HAGUE ACADEMY OF INTERNATIONAL LAW

The Hague Academy of International Law announces the establishment of a Centre for Studies and Research in International Law and International Relations, designed to be in operation from August 19th till September 28th 1957. This centre will form an organic part of the Academy and will operate under the authority of its managing boards and within the framework of its teaching.

The distinctive feature of the Centre's activities will be the personal and effective participation of members in its scientific work, which is to be conducted by two Directors of Studies, one for the English and the other for the French language.

The establishment of the Centre has been made possible by a grant to the Academy for this specific purpose by the Executive Committee of the Rockefeller Foundation. The number of participants will be strictly limited to 15 for each of the two languages.

INTERNATIONAL AGRICULTURAL STUDY CENTRE, MINISTRY OF AGRICULTURE AND INSTITUTE OF AGRICULTURE AT WAGENINGEN

INTERNATIONAL SEMINAR ON LAND DEVELOPMENT FOR AGRICULTURAL USES

This course will last from May 6—24, 1957 and will be held in Wageningen.

The programme is made up of three parts, each covering a period of one week.

The first week will be devoted to a discussion of various aspects of land development projects, with lectures dealing with land classification, water control, land reclamation and settlement problems.

The second week will be spent with field trips to (and discussion of) three land development projects in the Netherlands: Lowland areas ("Komgronden") with heavy river-clay soils alongside and between the branches of the River Rhine; the island of Schouwen-Duiveland in the Delta region, which was flooded in 1953 and since rehabilitated; the North-East Polder (Noordoostpolder), one of the polders of the Zuyder Zee reclamation project.

The third week will be devoted to a discussion of three land development projects outside the Netherlands: a project where agricultural development is mainly based on land reform, followed by land reclamation and redistribution of the land so reclaimed among peasant-farmers; a project in a tropical region, based on the development of new land and the settlement of crofter-farmers from overpopulated areas on small and medium-sized holdings; a land development project in a semi-arid region, located in a very sparsely populated area. There will also be lectures on project organization and execution and on financing.

INTERNATIONAL MEETING ON METHODS AND PROGRAMME PLANNING IN RURAL EXTENSION[1])

The 1957 course will be the fifth successive annual course on methods and programme planning in rural extension. It will be held in Wageningen from July 2—31, 1957. During the last four years, a steadily increasing number of extension officers have participated in this course with the object of enlarging their knowledge of efficient extension work. Last year more than 100 persons from 35 countries took part. In 1957 the organizing committee proposes to limit participation to one hundred persons.

The meeting is designed for both junior and senior extension officers. As it might be difficult for some extension leaders to attend a course abroad lasting nearly a month, the meeting has been organized in such a way that one section is specially adapted for them — the part lasting from July 15—31, 1957.

In these times of increasing international co-operation in rural extension, the joint study of efficient extension techniques may be regarded as a necessary part of inservice training. By pooling experiences and broadening views, extension officers are provided with new opportunities for improving agriculture and rural welfare in their respective countries.

Experts from various countries and staff from the Food and Agricultural Organization of the United Nations will be invited to give lectures. Ample time will be provided for discussion, through which the experiences and views of many countries can be exchanged. Practical demonstrations will also be given.

Visits to agricultural institutes having connections with extension work, field trips covering the larger part of the Netherlands and visits to various extension offices form an integral part of the programme.

The provisional programme includes lectures on the following:

July 2—15, 1957: principles of rural extension; psychological aspects of rural extension; the local extension worker and his individual extension methods; community organizations in rural extension; demonstrations in agricultural extension; demonstration in home economics extension; audio-visual aids in rural extension; exhibitions in rural extension; the written word in rural extension; rural youth work; co-operation between home economics-, agricultural- and rural youth extension work; co-operation between rural extension and commercial firms.

July 15—31, 1957: international co-operation in rural extension; economic aspects in rural extension; methods of farm economics in extension work; social and cultural aspects in rural extension; social extension work in rural areas; extension programme building and background information for rural programmes; participation, definition, problems, assignment of priorities and the annual plan of work in extension programmes; extension programmes at the national level; extension programmes at the regional level; farm productivity campaigns; rural extension and its relation to rural development; relations between vocational teaching and extension; relations between research and extension.

Simultaneous translation into English, French and German will enable the participants of follow the lectures and explanations and to take part in discussions in one of these three languages.

Prof. C. H. Edelman will again act as Director of the meeting.

ROMAN CATHOLIC UNIVERSITY AT NYMEGEN — NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION.

1957 SUMMER SESSION ON THE COMMUNITY OF MANKIND AND CROSS-CULTURAL RELATIONS

In the series "Trends in Modern Civilization", the 1957 summer session will be devoted to "The Community of Mankind and Cross-Cultural Relations".

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[1]) A new handbook ,,Methods and Program Planning in Rural Extension" was issued in August 1956 by the International Agricultural Study Centre. It can be obtained from the secretariat of the Centre, price 19 Dutch florins (US $ 5.—), postage included.

This year it will be held at the Roman Catholic University at Nymegen from July 16 to August 3.

The programme of this year's summer session is concerned with what we may hopefully call the constant trend, and must cherish as the noblest aspiration, of modern civilization: the trend and the aspiration towards a community of mankind.

Some basic facts, ideas and problems of man's unity and diversity will be reviewed. What do men have in common that constitutes their fundamental unity? What are the essentials of their diversity? What are the scope and the limitations of actual and institutional unification in various fields?

Subject-matter to illustrate and give specific form to these general questions will be found in a variety of practical experience in the growing field of cross-cultural relations.

The programme of lectures and discussions will include the following subjects:

Biogenetical fundamentals of human unity and diversity; Geography of human races; Culture and cultures; Ways of life: home, family, work, art and science; The variety of language; Problems of lingua franca; Ways of education; The idea of mankind and human variety; Religion and religions; Human value of group attributes; Problems of communication; Facts and trends of economic union; Facts and trends of political union; Cultural change and cross-cultural relations; Experience with refugees in Western European countries; The role of stereotype and prejudice in international contacts; Education and training for international contacts.

There will be a variety of excursions, in Nymegen, to Amsterdam, to the Nature Reservation "Hoge Veluwe" and the Kröller-Muller Museum, to Maastricht and the province of Limburg and to land reclamation works.

FREE (REFORMED) UNIVERSITY OF AMSTERDAM

1957 SUMMER COURSE

The course will be opened on the evening of September 2, 1957 with an address of welcome by the Rector Magnificus, and will end with a farewell dinner on the afternoon of September 10.

University professors will lecture on successive days on the following subjets:

Protestantism in the Netherlands.

The History of the Struggle for Christian Schools and Education and the History of the Free University.

Modern Eschatological Thinking.

The Science and the Art of Medicine in Christian Perspective.

Christian Faith and National Science.

Appraisal of the Foundations of the Work of the United Nations viewed from a Christian Standpoint.

Excursions in and outside Amsterdam will be arranged and a number of receptions are on the programme.

NETHERLANDS UNIVERSITIES' FOUNDATION FOR INTERNATIONAL CO-OPERATION

"SURVEY OF THE NETHERLANDS" COURSES

These courses are designed for those students from abroad who, while staying for a brief period in Holland on their European wanderings, wish to learn some facts and figures regarding this country and its characteristic features, besides the usual windmills, canals and wooden shoes.

Indentical courses will be held from July 8—14, and August 19—28.[1] Accommodation will be provided in the former Royal Palace, Noordeinde, the Hague.

There will be a tour of the Hague, an industrial tour, excursions to Amsterdam, to a flower market and to the Zuyder Zee Reclamation works.

Lectures will be given on the following subjects:

Geography of the Netherlands; Economic Development of the Netherlands or The Role of the Government in the Netherlands Economy; Land Reclamation.

MINISTRY OF EDUCATION, ARTS AND SCIENCES

SUMMER COURSE ON DUTCH LANGUAGE AND CULTURE, UTRECHT, 1957

This year, as in 1956 , a summer course on the Dutch language and Dutch culture will be organized under the auspices of the Ministry of Education, Arts and Sciences for French-speaking persons interested in the Dutch language by virtue of their profession or for other reasons. The course will again be held at the State University

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1) And on request at other periods for groups of at least 25 persons.

at Utrecht and will run from August 19th till September 12th.

Instruction will be given regarding the writing and oral use of the Dutch language in everyday life and regarding various aspects of Dutch culture. For this purpose four qualified teachers will give lessons three hours a day in the Dutch language, with the exception of the days for which excursions had been organized and Sundays. In addition, a number of prominent experts will lecture on a wide variety of subjects concerning the Netherlands and its culture.

The participant's knowledge of Dutch culture and of social and economic life in the Netherlands will be enhanced by excursions to a number of places of interest.

The course will be under the general direction of Dr. J. A. Huisman, Professor in the State University at Utrecht, while the organization will be in the hands of the Congress Organization Office of the Ministry of Education, Arts and Sciences. In order to provide foreign guests with an opportunity to acquaint themselves with the everyday use of Dutch and with Dutch habits and customs they will be provided with accommodation in the hands of Utrecht families.

VACATION COURSES FOR BELGIAN TEACHERS, AMSTERDAM, 1957

Two vacation courses for Belgian teachers will be held again this year for the seventh successive occasion under the Netherlands-Belgian Cultural Convention. The courses, which have been organized by the Ministry of Education, Arts and Sciences in collaboration with the Belgian Ministry of Public Education, will be held in the Agnietenkapel, forming part of the premises of the University of Amsterdam, at 231, O.Z. Voorburgwal, and will run from July 8th to July 21st for secondary school teachers and from July 29th to August 13th for elementary school teachers.

The first course will be under the direction of Dr. P. Minderaa, Professor in the State University at Leyden, and the second under that of Dr. L. J. Rogier, Professor in the Roman-Catholic University at Nymegen. The organization will be in the hands of the Congress Organization Office of the Ministry of Education, Arts and Sciences. The aim of the courses will be to afford Walloons and Flemings an impression of cultural life and its historical background in the Netherlands. Prominent experts will illustrate the general theme of the courses "Spiritual and Material Aspects of Present-day Dutch Culture" in a series of 18 talks. In addition, there will be a number of special courses designed to improve the participants' knowledge of the Dutch language, and its practical use, and of Dutch literature. Excursions and visits to various establishments will assist the foreign guests to form an impression of Dutch culture and Dutch social and economic life. In order to provide them with the opportunity to acquaint themselves with the everyday use of Dutch and with Dutch habits and customs they will be provided with accommodation in the homes of Utrecht families.

INTERNATIONAL SCIENTIFIC MEETINGS

FARADAY DISCUSSIONS, 1957

The Faraday Society is to organize a general discussion on "The Molecular Mechanism of Rate Processes in Solids" (in conjunction with the Royal Netherlands Chemistry Society).

Place: Amsterdam, Royal Tropical Institute.

Date: April 15–17, 1957. (excursions to Nature Reservation "Hoge Veluwe" on April 18).

Information: The Secretary of the Faraday Society, 6 Gray's Inn Square, Gray's Inn, London, W.C. 1.

Programme: Four scientific sessions, dealing with a) Relaxation Processes; b) Steady-state processes not involving lattice re-arrangement; c) Steady-state processes involving lattice re-arrangement.

XLIVth REUNION OF THE "ASSOCIATION DES ANATOMISTES"

Place: Leyden, buildings of the Medical Faculty of Leyden University.

Date: April 15 – 17, 1957 (excursions on April 18 and 19).

Information: Dr. J. M. F. Landsmeer, Anatomical-Embryological Laboratory, Boerhaave-kwartier, Wassenaarseweg, Leyden.

Programme: papers, demonstrations on embryology, anthropology, histology and histochemy. Language: French. Main papers are by Prof. W. J. C. Verhaart on "l'Analyse des cordons antérieurs et latéraux de la moëlle épinière en rapport avec la structure du bulbe".

(The analysis of the anterior and lateral funicles of the spinal cord in relation to the structure of the bulb). and: by Prof. J. Dankmeyer on "La valeur de l'étude des malformations congenitales pour l'embryologie normale du coeur". (The value of the study of congenital malformation to the normal embryology of the heart).

The "Association des Anatomistes" is a French Society, membership of which is also open to foreign anatomists. The Society's yearly reunion is sometimes held outside France, such as this year in Leyden.

INTERNATIONAL SYMPOSIUM ON ISOTOPE SEPARATION

organized by the Netherlands Physical Society in collaboration with the International Union of Pure and Applied Physics.

Place: Amsterdam. Physics Laboratory of the Free (Reformed) University, 174 de Lairessestraat, Amsterdam.

Date: April 23 – 27, 1957.

Information: Prof. Dr. J. Kistemaker, Laboratory for Mass-spectrography, 202, Hoogte Kadijk, Amsterdam-C.

Programme: General subjects. Isotope Separation by Distillation. Distillation and Chemical Methods. Chemical Methods of Isotope Separation. Electrochemical methods. Electromagnetic isotope separation. Thermal diffusion. Ion exchange and chemical exchange. Isotope separation by diffusion.

INTERNATIONAL SYMPOSIUM ON PURITY CONTROL BY THERMAL ANALYSES

organized on behalf of the Committee on Physicochemical Data and Standards of the International Union of Pure and Applied Chemistry.

Place: Amsterdam. Geological Laboratory of the University of Amsterdam, 130, Nieuwe Prinsengracht, entrance Roeterstraat.

Date: April 24 – 26, 1957

Information: Dr. W. M. Smit, 172, Biltstraat, Utrecht.

Sections: 1. Theory; 2. Apparatus; 3. Applications.

FIRST EUROPEAN SYMPOSIUM ON CHEMICAL ENGINEERING

"Chemical Reaction Engineering"

(12th meeting of the European Federation of Chemical Engineering)

Place: Amsterdam, Royal Tropical Institute, Mauritskade 63.

Date: May 7 – 9, 1957 (with excursions to Zuyder Zee reclamation works on May 10).

Information: Secretary, Symposium Commitee: Dr. K. Rietema, 23, Driftweg, Huizen, N.H.

Syllabus: Chemical reaction engineering is a part of chemical engineering in general. It is a new branch of science, which is still in the development stage. It aims at controlling the chemical conversions on a technical scale and will ultimately lead to appropriate and successful reactor design. An important part is played by various factors such as flow phenomena, mass and heat transfer, and reaction kinetics. It will be clear that it is necessary in the first place to know these factors separately. Yet this knowledge in itself is insufficient. The development of chemical conversions on a technical scale can only be understood from the relation and interaction between the above mentioned factors. This relation and interaction will be the main theme of the symposium on chemical reaction engineering.

FIFTH INTERNATIONAL CONGRESS OF THERAPEUTICS

sponsored by the International Union of Therapeutics

Place: Utrecht, "Arts and Sciences Building", Mariaplaats.

Date: June 4 – 6, 1957

Information: Dr. F. A. Nelemans, 6, Vondellaan, Utrecht.

Programme: The object of the congress is to bring together pharmacologists and clinicians for the common discussion of the pressing problems of pharmacotherapy and so to keep interest for pharmocotherapy alive among clinicians, and among pharmocologists for the practical application of their science.

The following main subjects will be deatl with: Recent development in the study of the adrenocortical hormones. Diseases of the central nervous system. Cytolytica and cystostatica.

CONGRESS ON PROPHYLACTIC MEDICINE

Organized by the "Société Internationale de Médecine Prophylactique" of Vienna.

Place: Scheveningen (the Hague seaside resort).

Date: June 24 – 29, 1957

Provisional programme: prophylaxis of rheumatism, prophylaxis of cancer, prophylaxis of poliomyelitis, mental hygiene, prophylaxis of noise neuroses, orthopaedy and prophylaxis.

INTERNATIONAL SEMINAR ON REGIONAL PLANNING AND DEVELOPMENT

Organized for the Permanent International Centre for Regional Planning and Development by the Netherlands Universities Foundation for International Cooperation.

Place: The Hague, former Royal Palace, Noordeinde.

Date: July 1 – 6, 1957 (excursions on July 6 and 7).

Information: Netherlands Universities Foundation for International Cooperation, 27 Molenstraat, The Hague.

Programme: The work of the seminar will be devoted to the consideration, at the academic level, of general principles and general methodological experience.
Theme of the seminar programme: "Methods and Problems of Regional Planning for the Benefit of Man". This will be considered in a comprehensive manner, by studying the ecological, economic, social and cultural factors in relation to one another.
Six main subjects are on the discussion programme:

1. Planning as a process in the development of society. 2. History of the development of planning. 3. The concept of the region. 4. Planning as an operation. 5. The planning team. 6. The execution of the plan.

GRADUATE SEMINAR ON COMPARATIVE LAW,

under the auspices of the Netherlands Faculties of Law and organized by the Netherlands Universities Foundation for International Cooperation.

Place: Leyden University.

Date: July 1 – 7, 1957

Information: Netherlands Universities Foundation for International Co-operation.

Programme: The discussion of legal problems in the field of private and public law, on a comparative basis. Languages: English and French. About fifty graduates from France, Great Britain, Switzerland, Belgium, Luxembourg and the Netherlands have been invited to participate.

COLLOQUIUM "CONSTRUCTIVITY IN MATHEMATICS"

International Union of Logic, Philosophy and Methodology of the Sciences.

Place: Amsterdam, Mathematics Institute of the University of Amsterdam.

Date: August 26 – 31 ,1957.

Information: Prof. Dr. A. Heyting, Mathematic Institute, University of Amsterdam, 121, Nieuwe Achtergracht, Amsterdam-C.

MEETING OF THE "INSTITUT DE DROIT INTERNATIONAL"

Place: Amsterdam, Trippenhuis, 29, Kloveniersburgwal.

Date: September 18 – 27, 1957.

Information: International Bureau, Permanent Court of Arbitration, The Peace Palace, The Hague.

Programme: The programme of discussions will be arranged in due time.

The "Institut de Droit International", which was founded in 1873, is a purely scientific institution which aims at the promotion of international law – both public and private. Its honorary chairman is Prof. Charles de Visscher (Belgium), and Prof. J. P. A. François is the chairman for 1956/57. The institute has sixty members and 60 associates.

Associates are chosen by the Institute from among persons of different nationalities who have achieved reputations in the field of international law, as regards both theory and practice. Members are appointed from among the Associates. At present, the Netherlands group of the Institute consists, besides Prof. François, of Prof. J. H. W. Verzijl, Prof. F. M. van Asbeck and Prof. J. Offerhaus.

The Institute usually meets once every 18 months or 2 years in one of the countries which are represented in the Institute. There had been no meeting in the Netherlands since 1925.

LIBRARIES AND MUSEUMS

HANDLIST OF ARABIC MANUSCRIPTS

In addition to an important Western manuscript department, the library of the State University at Leyden possesses an extensive department of Oriental manuscripts, containing more than 9000 items.

Handlists have already appeared in respect of various groups belonging to this collection of Oriental manuscripts, such as those for the Javanese, Malayan and Buginese groups. A handlist of Arabic manuscripts is now appearing, which gives a brief description of manuscripts which have already been described in earlier handlists of Arabic manuscripts, and also of acquisitions during recent decennia and of the small number of Arabic manuscripts in other Dutch libraries. The new handlist is being published on the occasion of the hundredth anniversary of the birth of Professor Snouck Hurgronje. 1) The University Library at Leyden wishes in this way to express its deep gratitude to this great Arabist and man of learning in the field of Islamic studies, who directed its Oriental Department for almost thirty years as *Interpres* and who considerably enriched its collection with the gift of important books and a set of manuscripts.

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1) See the article on Snouck Hurgronje elsewhere in this issue.

EXHIBITION OF THE WORKS OF LINNAEUS

On May 23, 1957, it will be 250 years since the celebrated Swedish botanist, Carl von Linné, better known as Linnaeus, was born at Rashult in Sweden. Arriving in Leyden in 1735, Linnaeus stayed in the town until 1739, coming during that period into close contact with Prof. H. Boerhaave and Prof. van Royen, in particular. In the Botanical Garden of Leyden University — which garden has now been in existence for 370 years — important changes were brought about, associated with the concept of "species" which Linnaeus introduced into biology.

An addition to the large number of Linnaeus' works already in the university library at Leyden was made in 1950, when the library acquired a very important collection of Linnaeana bequeathed to it by the late Dr. D. MacGillavry; as a result the library now possesses one of the most comprehensive collections of the works of this famous botanist. An exhibition of Linnaeus' works will be on display in the library towards the end of May to mark the 250th anniversary of his birth.

EXHIBITION OF PUPPETS AT LEYDEN

From the end of May to the beginning of October the exhibition galleries of the Ethnological Museum at Leyden will be peopled by a most diverse set of representatives from the puppet world.

There one will be able to meet Jan Klaassen (the Dutch version of Punch) side by side with Semar, the well-known Javanese clown, while the Chinese marionettes will be keeping company in one room with their counterparts from the Punchinello shows of Antwerp. However widely these puppets may differ in outward appearance, they have a number of characteristics in common.

It is the dexterity of the often invisible puppet-master's hands which brings the puppet world to life. In that world well-loved kings fight savage demon princes and Jan Klaassen stuffs his enemy (who symbolizes Death) into the coffin. The people gathered around to watch the show get swept up in the intrigue and are not satisfied until their hero has definitely overcome his evil opponent.

The organizers of this exhibition will also be paying some attention to the functions the puppet show can perform in the countries where it is given. Whereas in Java the characters appear in a shadow play which still retains something of its magical and religious function, in Mexico a number of puppets have been designed by Unesco workers in order to use puppet shows as a means of imparting certain education to the Mexican peasant.

Thus this exhibition of puppets has many different aspects and one of its most attractive features for the visitor will be the demonstrations of the various forms of puppet show which will be given during the exhibition, on days to be announced later on.

FOREIGN STUDENT SERVICE

The Foreign Student Service in the Netherlands (affiliated to the Netherlands Committee of the World University Service) concerns itself with the tasks of providing information regarding study in the Netherlands to countries abroad and of introducing foreigners staying in the Netherlands for study purposes to Dutch cultural and social life.

At the moment there are about 4,000 foreign students working at institutes of secondary and higher education in the Netherlands. In addition about 500 students come every year to perform some months of practical work with Dutch enterprises and organizations.

The work of introduction performed by the Foreign Student Service consists of reception on arrival, the finding of living accommodation, contacts with lecturers and fellow-students and arrangements for language lessons. Foreign students are provided with an opportunity to gain a good impression of the country where they are studying by means of organized excursions to Dutch enterprises, the holding of study conferences, and study-trips lasting several days. Social evenings, evenings at which contacts can be made with Dutch students, an international sports meeting, and joint visits to theatres and concert halls form important items in the work of the F.S.S.

Contact between foreign students and the Foreign Student Service is maintained by a monthly bulletin in which the various activities are announced. This bulletin is issued in an edition of 5,000 copies and is distributed among foreigners free of charge.

The national secretariat of the Foreign Student Service is at 5, Oranje Nassaulaan, Amsterdam, while local committees have been set up in other university towns.

W.U.S. ASSEMBLY, 1957

The Executive Committee of the World University Service has decided to hold its 1957 General Assembly in the Netherlands. This Assembly is held in a different country (affiliated to the W.U.S.) every year. About 150 delegates from approx. 45 countries, from South-East Asia, the Middle East, Africa, Western Europe and America will be attending the Assembly, representing the entire academic world.

The main aim of the 1957 Assembly is to determine the Central International Programme under the device: "There is none so poor that he has nothing to give, and none so rich that he has nothing to receive: thus the future of all is interlinked with the future of each".

The programme consists of the following sections:

1. Student lodging and living
2. Student health
3. Educational facilities and equipment
4. Individual and emergency aid (this includes, *inter alia,* aid to refugee students and the grant of scholarships).

In addition, the Assembly will discuss the organization of summer courses, seminaria, congresses, exchange of study groups and the like. A subject of general university interest will be dealt with in a symposium.

The Assembly will take place in the first half of August at the Netherlands Institute for Education Abroad at Nijenrode, Breukelen. Further information can be obtained from The Netherlands Committee of W.U.S., 5, Oranje Nassaulaan, Amsterdam.

HUNGARIAN STUDENTS IN THE NETHERLANDS

The recent events in Hungary confronted the free world with problems of a practical and ethical nature. Almost 200,000 refugees have already sought shelter in Western Europe. True to tradition, the Netherlands was one of the first countries to offer these people asylum, and the Netherlands academic world was able to take in a relatively large number of refugee students thanks to a concerted effort on the part of all concerned.

At the moment 103 of the students fleeing from Hungary after the revolution now have a scholarship enabling them to complete their studies in the Netherlands. They are spread as follows over the various universities and institutes of higher education:

Amsterdam	5
(Free Reformed University)	3
Delft	53
Groningen	4
Wageningen	10

Leyden	5
Nymegen	3
Rotterdam	3
Tilburg	3
Utrecht	14

Together with the University Asylum Fund, the Foreign Student Service, whose main task is to help the foreign student in the Netherlands, can form an indispensable link in the process of the Hungarian students' acclimatization.

GUEST LECTURERS AND RESEARCH SCHOLARS IN THE NETHERLANDS AND VICE-VERSA

U.S. FULBRIGHT LECTURERS AND RESEARCH SCHOLARS IN THE NETHERLANDS

ACADEMIC YEAR 1956 – 1957.1)

Robert E. Bollinger, Associate Professor of Medicine, Kansas University Medical School, Kansas City, Kansas. - To conduct research in medical science at the Wilhelminagasthuis, University of Amsterdam.

E. Grey Dimond, Professor of Medicine and Director, Cardiac Laboratory, Kansas University Medical School, Kansas City, Kansas - To lecture in cardiology at the State University at Utrecht.

Henri W. Dunham, Professor of Sociology, Wayne University, Detroit 1, Michigan. – To lecture in sociology at the University of Amsterdam.

Melvin M. Green, Associate Professor of Genetics, University of California, Davis, Cal.– To conduct research in zoology at the State University of Leyden.

Daniel Hamberg, Associate Professor of Economics, University of Maryland, College Park, Md.– To lecture on business cycles at the Netherlands Institute of Economics, Rotterdam.

Martin Levit, Associate Professor of Education, University of Kansas City, Kansas City, Missouri.– To conduct research in education at the State University at Utrecht.

Arthur J. Madden, Associate Professor of Chemical Engineering, University of Minnesota, Minneapolis 19, Minnesota.– To conduct research in chemical engineering at the Delft Institute of Technology.

James E. Montgomery, Associate Professor of Housing, Coll. of Home Economics, Cornell University, Ithaca, New York.– To lecture in rural sociology at the Institute of Agriculture, Wageningen.

Robert L. Morlan, Associate Professor of Government, University of Redlands, Redlands, Cal. – To lecture in Political Science at the University of Amsterdam.

Alexander S. Nadas, Clinical Associate Professor, Cardiologist Children's Hospital, Harvard Med. School. – To lecture in cardiology at the State University at Groningen.

Charles Parkhurst, Professor of Art History Head of Art Dept., Oberlin College, Oberlin, Ohio. – To conduct research in art history at the State University at Utrecht.

Heinrich A. Rommen, Professor of Political Science, Georgetown University Graduate School. – To lecture in political science at the Roman Catholic University at Nymegen.

Raymond V. Schoder, Assistant Professor of Classics, West Baden College, West Baden Springs, Ind. – To lecture in the classics at the Roman Catholic University of Nymegen.

Taylor Starck, Kuno Francke Professor of German Art and Culture, Harvard University, Cambridge 38, Massachusetts. – To lecture in Germanic Literature at the State University at Leyden.

Clarence Sterling, Assistant Professor of Food Technology, University of California, Davis, Cal. – To conduct research in plant science at the Delft Institute of Technology.

Eli Sternberg, Professor of Mechanics, Illinois Inst. of Technology, Chicago 16, Illinois. – To lecture in engineering at the Delft Institute of Technology.

Robert S. Taylor, Assistant Librarian. Lehigh University Library, Bethlehem, Pennsylvania. – To lecture in library science at the Delft Institute of Technology.

Robert L. Vaught, Instructor, Mathematics Department, University of Washington, Seattle, Washington. – To conduct research in mathematics at the Mathematics Institute, University of Amsterdam.

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1) The next issue of this Bulletin will - at the occasion of the forth - coming honorary doctorate at Amsterdam for Senator James W. Fulbright - provide some facts and figures on the effects of the U. S. Fulbright Act in the Netherlands.

NETHERLANDS LECTURERS AND RESEARCH SCHOLARS IN THE UNITED STATES

TRAVELLING WITH THE AID OF THE UNITED STATES EDUCATIONAL FOUNDATION

ACADEMIC YEAR 1956 – 1957.

Dr. H. Berger, of the State University at Leyden (organic chemistry), to conduct research at Duke University, Durham, N.C.

Dr. L. Bosch, of the Netherlands Cancer Institute at Amsterdam (biochemistry), to conduct research at Mc.Ardle Memorial Laboratory, Madison, Wisc., and at National Institute of Health, Bethesda, Md.

Dr. R. Donner, of the Free (Reformed) University of Amsterdam (medicine, pathology), to lecture at the Harvard Medical School.

Prof. Dr. J. Droogleever Fortuyn, of the State University at Groningen (comparative neurology and clinical neuro-physiology), to lecture at the University of Michigan, Ann Arbor, Mich.

P. J. Dubbeldam, of the Free (Reformed) University of Amsterdam (physics), to conduct research at the Massachussetts Institute of Technology.

Dr. C. Haas, of the University of Amsterdam (chemistry), to conduct research at the Brown University, Providence, R.I.

Dr. E. Hecht, of the State University of Utrecht (medicine, hematology), to conduct research at the Wayne University of Detroit, Mich.

Dr. G. J. Hooyman, of the State University of Utrecht (theoretical physics), to conduct research at the University of Michigan, Ann Arbor, Mich.

Prof. Dr. I. Kisch, of the University at Amsterdam (foreign and comparative law), to lecture in the Law School of Louisiana State University.

Dr. H. C. Kramers, of the State University at Leyden (physics), to conduct research at the Ohio State University, Columbus, Ohio.

Dr. J. Langman, of the Free (Reformed) University at Amsterdam (medicine, anatomy embryology), to conduct research at the Yale University of New Haven, Conn.

L. Lindner, of the University at Amsterdam (nuclear chemistry), to conduct research at the M.I.T. Cambridge, Mass.

Dr. L. Plaut, of the State University at Groningen (astronomy), to conduct research at the Mount Wilson and Palomar Observatories, Cal.

Jhr. J. J. Quarles van Ufford, of the State University at Leyden (organic chemistry), to conduct research at the Washington University, St. Louis, Mo.

Dr. C. Romers, of the State University at Leyden (chemistry, crystallography), to conduct research at the Rice Institute Houston, Texas.

P. Singelenberg, of the State University at Groningen (history of art), to lecture in Oberlin College, Ohio.

Dr. Elizabeth P. Steyn Parve, of the State University at Utrecht (biochemistry), to conduct research at the Institute for Enzyme Research Madison, Wisc.

Dr. J. A. J. Stolwijk, of the Institute of Agriculture at Wageningen (plant physiology), to conduct research at Harvard University, Cambridge, Mass.

Dr. G. W. Tichelaar, of the Delft Institute of Technology, (physics). to conduct research at the University of Illinois, Urbana, Ill.

Prof. Dr. J. Tinbergen, of the Netherlands Institute of Economics at Rotterdam (econometries), to lecture in Harvard University, (Walter S. Barker Chair).

Dr. H. A. L. Trampusch, of the University at Amsterdam (medicine, embryology and zoology), to conduct research at the Princeton University, N. J.

J. G. van Busschbach, Parapsychology, to conduct research at the Duke University, Durham, N. C.

J. H. van den Hende, of the State University at Groningen (chemistry, crystallography), to conduct research at the Pennsylvania State University. University Park, Pa.

Dr. H. R. van der Vaart, of the State University at Leyden (science, mathematical statistics and mathematical biology), to conduct research at the Institute of Statistics ,North Carolina State College, N.C.

J. A. A. van Leent, of the State University at Leyden, (social psychology), to conduct research at the Harvard University.

Dr. K. M. van Vliet, of the Free (Reformed) University of Amsterdam (physics: solid state physics, electronics), to conduct research at the University of Minnesota, Minneapolis, Minn.

Ir. P. Th. Veltman, of the Delft Institute of Technology (physics: instrumentation and automation), to conduct research at the Massachusetts Institute of Technology

Miss M. G. P. J. Warringa, of the Netherlands Organisation for Applied Scientific

Research, The Hague (biochemistry), to conduct research at Edsel B. Ford Institute for Medical Research, Detroit, Mich.

GUEST LECTURERS AT THE INSTITUTE OF SOCIAL STUDIES, THE HAGUE

MARCH – JUNE 1957.

PROF. R. FRISCH of Oslo: New techniques of comprehensive development planning. March 6 – 31.

PROF. R. SCHLESINGER of Glasgow: Changes in the social function and position of the family in USSR in relation with the overall development policy. March 10 – 15.

P. URI of Luxemburg: Planning in the European Coal and Steel Community. March 18-22.

MISS L. MAIR of London: Public Administration and social change. March 19 – April 6.

PROF. M. KHALIL of Beiroet: Problems of reconsolidation of public administration in young states upon achievement of independence. March 22 – 29.

G. DEURINCK of Brussels: Productivity: introduction and concepts. March 28.

PROF. M. GINSBERG of London: Principles of social justice. March 30.

H. KING of Paris: The impact of technology and the promotion of productivity: Case Studies of some European Countries. April 1.

PROF. A. BAYKOV of Birmingham: Critical issues in USSR investment. April 1 – 14.

R. GREGOIRE of Paris: Productivity in the administrative sector. April 15.

Dr. P. Jacobson of Geneva: The individual person in international relations. March 24-28.

PROF. C. C. RENWICK of New South Wales: Administrative preparation and implementation of comprehensive development plans. April 15 – May 25.

J. MONEROT of Paris: On the character of the social fact, with a view to its evaluation as a factor in social processes. April 30 – June 3.

J. DAVICO of Belgrado: Case studies in long-term planning. May 1 – 31.

G. DINARDI (+ assistant) of Rome: Case studies in long-term planning May 1 – 31.

I. SVENNILSON of Stockholm: Political impliplications of economic development plans. May 6 – 11.

G.GURVITCH of Paris: Limitations of sociological theory. May 27 – June 3.

G. L. S. SHACKLE of Liverpool: The limitations of economic theory. May 27 – June 3.

C. A. W. MANNING of London: Methodological issues in the study of international relations. June 18 – 20.

E. A. A. ROWSE of London: Regional Planning. June 3 – 14.

FOREIGN STUDENTS IN THE NETHERLANDS AND VICE VERSA

The next issue of this Bulletin will contain detailed statistics of foreign students in the Netherlands, in the current academic year, arranged according to country of origin and university and faculty of enrolment.

Lack of space has prevented us from including here similar detailed information regarding the previous academic year (1955—56), but a few figures follow here below. (Ed.)

SOME FIGURES REGARDING FOREIGN STUDENTS IN THE NETHERLANDS

(ACADEMIC YEAR 1955-56)

Registration by foreign students at the ten universities mentioned on the back cover of this Bulletin:

Leyden 279; Utrecht 132; Groningen 55; Amsterdam 370; Amsterdam (Free Univ.) 89; Nymegen 33; Delft 305; Wageningen 11; Rotterdam 71; Tilburg 13; Total 1358. The three biggest groups came from Indonesia (749), the United States (234) and Germany (78).

The three faculties showing the highest registration figure were: Medicine (433), Technical Sciences (305) and Economics (160).

MISCELLANEOUS

HONORARY DOCTORATES – STATE UNIVERSITY AT UTRECHT

The following honorary degrees of doctor have been awarded at the State University at Utrecht on March 29, 1957, on the occasion of the celebration of the university's 321st *dies natalis*.

FACULTY OF MEDICINE

Dr. Geoffrey B. Dowling.

Research Fellow, Medical School, St. Thomas' Hospital; Clinical Teacher, London University.

Dr. Dowling is now 65 years of age and has completed a period of many years service in the Skin Department of St. Thomas' Hospital. He remains attached to the Medical School as a research fellow and is still a clinical teacher at London University.

Dr. Dowling's great merits and his significance as a healer to so many thousands of lupus patients have provided the grounds for the award of this honorary doctor's degree.

FACULTY OF SCIENCE.

Prof. Dr. Maurice Ewing.

Professor of Geophysics and Marine Geology at Columbia University, New York.

Professor Ewing is one of the very greatest figures active in the field of Geophysics and the allied sciences, both by virtue of his own work and on account of achievements on the part of others made possible by his drive, his skill and his inspiring enthusiasm. He is a leading figure in the gravitation field in particular, and as a result of this links have been established between his geophysical work and research work being carried out at the University of Utrecht.

It is partly on account of Professor Ewing's relations with the University of Utrecht that it is felt that the honorary degree of doctor is a suitable award for the important scientific work he has carried out.

FACULTY OF LAW

Dr. Hermann Mannheim.

Lecturer at the London School of Economics and Political Science.

In the world of international criminology Dr. Mannheim is regarded as a front-rank figure. A few years ago he spent twelve months as guest lecturer at Princeton University, in the U.S.A. He is on the board of the "Association Internationale de Criminologie" and played a leading rôle in organizing the International Criminological Congress, held in London in September 1956. Dr. Mannheim is no stranger to the Netherlands. In 1950 he gave lectures in various university towns in this country, including Utrecht.

HONORARY DOCTORATE FOR PROFESSOR JOHANNA WESTERDIJK

At the end of May, Professor Johanna Westerdijk, emeritus professor of phytopathology at Amsterdam and Utrecht and head of the Central Bureau of Mould Cultures at Baarn, is to receive an honorary doctor's degree from the university of Uppsala, Sweden, during the forthcoming celebrations to commemorate the 250th anniversary of the birth of Linnaeus.

HONOUR FOR PROF. DR. WOERDEMAN

Professor M. W. Woerdeman, professor in the faculty of medicine at the University of Amsterdam and at present Rector Magnificus of this university, has been elected an overseas member of the Swedish Royal Academy of Science.

THE STUDY OF INTERNATIONAL RELATIONS

On acceding to the chair of present-day international politics as professor extraordinarius at the State University at Leyden, Prof. Dr. B. H. M. Vlekke recently delivered an address on the manysided problem of international relations, the study of which is, a he showed, of recent origin only. Up to the first world war the number of those interested in international relations was limited and even the people's representatives in the different countries were inadequately informed on the subject; the keynote was struck by the rules of secret diplomacy.

According to Professor Vlekke, the modern study of international affairs has developed on the one hand out of the idealistic peace aspirations of the nineteenth century, while it has acquired greater depth and content as a result of the self-criticism that spread among wide circles of people as a result of the economic collapse of the 'thirties'. Nowadays, however, if one studies and compares the lists of subjects comprised by the study of international relations at the various universities, one meets with the greatest diversity, the lists including such subjects as international politics, international economics, international law and also political geography, social psychology and, generally speaking, sociology.

Professor Vlekke described this in his inaugural address as an unfavourable sign, for it is difficult to see how a student can usefully attempt to master all these very diverse subjects. For the time being the new subject has lost its inner unity. Nevertheless, the question arises as to what can be done, if the subject of international relations demands too large a body of prior knowledge of the various areas, to meet the need for better-founded opinions in the field of international politics. The newly-appointed professor came to the conclusion that in view of its great diversity the study of international relations is not a task for one person alone, but that the various specialists must be given an opportunity, each in his own field. Nevertheless, he did discern a co-ordinating element common to each branch of study in this field, *viz.*, the common political plane, where all international phenomena meet. He therefore saw the study of international politics, i.e. the political relations between the states, in a certain sense as the culmination of the study of international relations, although, viewed strictly, international politics are no more than a means for advocating national interests and aspirations or the interests and aspirations of certain groups inside or outside the nation and, unfortunately, for championing personal ambitions.

COMMEMORATIVE VOLUME ON LORENTZ

In a few months' time a volume of essays in commemoration of the physicist, H. A. Lorentz (1853—1928), will be appearing in the English language. In this volume Dr. G. L. de Haas—Lorentz, the scholar's eldest daughter, contributes personal reminiscences of her father. Prof. A. D. Fokker and Prof. H. B. G. Casimir discuss Lorentz's scientific work and Prof. B. van der Pol throws light upon the influence his ideas have had on electro-magnetic telecommunications. Lorentz's contribution to the enclosure of the Zuyder Zee is dealt with by Prof. J. Th. Thijsse. The work contains a variety of photographs, some of which are being published for the first time. The publication of this volume has been made possible by a subsidy from the Netherlands Organization for Pure Research (Z.W.O.) and the Dutch Society of Sciences (Hollandse Maatschappij der Wetenschappen).

DOCTORAL DISSERTATIONS

THEOLOGY

End, A. van den *Gisbertus Bonnet. Bijdrage tot de kennis van de geschiedenis der gereformeerde theologie in de achttiende eeuw;* Gisbertus Bonnet. (Contribution to the knowledge of the history of reformed (Calvinist) theology in the eighteenth century). Wageningen, 1957.
With a summary in English.
State University at Utrecht.

Lescrauwaet, J. F. *De liturgische beweging onder de Nederlandse Hervormden in oecumenisch perspectief. Een fenomenologische en kritische studie;* (The liturgical movement among the Dutch Reformed (Hervormde) Sect in œcumenical perspective. A phenomenological and critical study). Bussum, 1957.
Roman Catholic University at Nymegen.

Loffeld, E. F. W. *Le problème cardinal de la missiologie et des missions catholiques;* (The cardinal problem of the science of missions and of the Catholic missions). Nijmegen, 1956.
With a summary in English.
Roman Catholic University at Nymegen.

Mat, L. A. F. le. *Textual criticism and exegesis of psalm XXXVI. A contribution to the study of the Hebrew book of psalms. Utrecht, 1957.*
State University at Utrecht.

LAW

Postma, S. *Moord en strafbare manslag in die Suid-Afrikaanse strafreg;* (Murder and penal Homicide in South African criminal law). Leyden, 1957.
With a summary in English.
State University at Leyden.

Ruwe, J. Th. de. *De Eerste Kamer der Staten-Generaal;* (The First (Upper) Chamber of the States-General). Nymegen, 1957.
With a summary in English.
Roman Catholic University at Nymegen.

Schoonderbeek, W. *De geldschieterswet (wet van 28 Januari 1932. Stbl. 19);* (The Usury Act — Act of January 28, 1932, State papers 19). Assen, 1957.
With summaries in English, French and German.
University of Amsterdam.

Stein, P. A. *Misbruik van omstandigheden als grond voor ongeldigheid van Rechtshandelingen;* (Abuse of circumstances as the grounds for the invalidity of law proceedings). The Hague, 1957.
With summaries in English, French and German.
State University at Leyden.

MEDICINE

Bastiaans, J. *Psychosomatische gevolgen van onderdrukking en verzet;* (Psycho-somatic effects of oppression and resistance). Amsterdam, 1957.
With summaries in English, French and German.
University of Amsterdam.

Motke, A. W. J. *Tumoren van de vrouwelijke geslachtsorganen bij het kind;* (Tumours of the female Genital organs in the child). Nymegen, 1957.
With summaries in English, French and German.
State University at Utrecht.

Nederveen, A. *De behandeling van de verse dijhalsbreuk met de arthroplastiek volgens Judet. Indicaties en resultaten;* (The treatment of recent fractures of the collum femoris with arthroplastics according to Judet. Indications and results).
The Hague, 1956.
With summaries in English, French and German.
University of Amsterdam.

Roos, J. *Purpura hypocoagulabilica.* Utrecht, 1957.
With a summary in English.
State University at Utrecht.

Sunier, A. *Mental illness and psychiatric care in Israël. Report submitted to the Ministry of Health of Israël; The World Health Organization; and the American Joint Distribution Committee.* Amsterdam, 1957.
University of Amsterdam.

NATURAL SCIENCES

Balk, P. *Preliminary investigations on the electronic spectra of aromatic hydrocarbon negative ions.* The Hague, 1957.
Free (Reformed) University of Amsterdam.

Braun, P. B. *The crystal structures of a new group of ferromagnetic compounds. 1956.*
University of Amsterdam.

Goedheer, J. C. *Optical properties and in vivo orientation of photosynthetic pigments.* Nymegen, 1957.
State University at Utrecht.

Houbolt, J. J. H. Ch. *Surface sediments of the Persian Gulf near the Qatar Peninsula.* The Hague, 1957.
State University at Utrecht.

ARTS

Giessen, R. W. van der. *Enkele aspecten van het probleem der predictie in de psychologie, speciaal met het oog op de selectie van militair personeel;* (Some aspects of the prediction problem in psychology with special reference to the selection of military personnel). Amsterdam, 1957.
With a summary in English.
Free (Reformed) University of Amsterdam.

Wengen, G. D. van. *Social aspects of the co-operative movement in Ceylon and Southern India.* Amsterdam, 1957
State University at Leyden.

ECONOMICS

Albeda, W. *De rol van de vakbeweging in de moderne maatschappij;* (The rôle of the trade unions in the modern society). Hoorn, 1957.
Free (Reformed) University of Amsterdam.

Elbers, Ch. H. *Reservering in het particuliere bedrijfsleven en bij overheidsbedrijven;* (The formation of reserves in private and public enterprise). Leyden, 1957.
Roman Catholic Institute of Economics at Tilburg.

Groot, Kl. G. de. *De financiering van de industrialisatie in Nederland;* (The financing of industrialization in the Netherlands). Leyden, 1957.
With a summary in English.
University of Amsterdam.

POLITICAL AND SOCIAL SCIENCES

Jolles, H. M. *Der Geburtenrueckgang in Wien. Sozialwissenschaftliche Uebungen;* (The decline in the birth-rate in Vienna. Studies in Social Science). Assen, 1957.
University of Amsterdam.

TECHNICAL SCIENCES

Lohuizen, O. E. van. *De verhuizing van acylgroepen bij monoglyceriden;* (The displacement of acyl groups among monoglycerides). The Hague, 1957.
With a summary in English.
Institute of Technology at Delft.

Mantz, M. R. *Harmonische bedrijfsvoering;* (Harmonious business administration). Leyden, 1957.
Institute of Technology at Delft.

AGRICULTURAL SCIENCES

Bongers, L. H. J. *Aspects of nitrogen assimilation by cultures of green algae.* Wageningen, 1956.
Institute of Agriculture, Wageningen.

Hendriks, J. A. H. *Het Lelydorpplan in Suriname. Inleiding tot het vraagstuk van de landontwikkeling op arme gronden in een tropisch gebied;* (the Lelydorp Plan in Surinam. Introduction to the problem of land development on poor soils in a tropical area). Wageningen, 1956.
Institute of Agriculture, Wageningen.

Wal, P. van der. *De structuur van de substantia compacta van de metatarsus in verband met de calcium- en fosforhuishouding bij rundvee*; (The structure of the substantia compacta of the metatarsus in relation to calcium and phosphor production in beef cattle). Wageningen, 1957.
With a summary in English.
Institute of Agriculture, Wageningen.

Stadhouders, J. J. *De hydrolyse van vet bij de kaasrijping in verband met de smaak van kaas;* (Fat hydrolysis in cheese maturing and its connection with the flavour of cheese). Wageningen, 1956.
With a summary in English.
Institute of Agriculture, Wageningen.

OTHER RECENT SCIENTIFIC PUBLICATIONS

Lack of space has obliged us to postpone to the next issue the inclusion in this section of a selection of recent scientific publications issued in this country in one of the world languages as well as a list of recent publications sponsored by NUFFIC. (Ed.)

SCHOLARSHIPS AND FELLOWSHIPS FOR FOREIGN STUDENTS, TENABLE IN THE NETHERLANDS

As from the next issue, this section of the Bulletin will contain a listing of scholarships and fellowships for foreign students tenable in the Netherlands. (Ed.)

BASIC DATA ON INTERNATIONAL COURSES OFFERED IN THE NETHERLANDS[1]

(see also the "International Courses" Section in this Bulletin)

INSTITUTE OF SOCIAL STUDIES

Information: The Rector, Institute of Social Studies, 27, Molenstraat, The Hague.

COURSES OFFERED:

a) Two-year Course in the Social Sciences. The study of social change and economic development in the widest sense. The course leads to the degreee of Master of Social Sciences.

Requirements for admission: Advanced academic standing in one of the social sciences. *Next course starting:* September 1957. Closing date for applications: June 30, 1957.

b) Six-Month Advanced Diploma Course in Public Administration.

Requirements for admission: Advanced academic status and preferably some years of experience in the public service. *Next course starting:* January 1958. Closing date for applications: October 15, 1957.

c) Six-Month Advanced Diploma Course in Economic Planning and Social Accounting.

Requirements for admission: Advanced academic status and preferably some years of experience in the public service. *Next course starting:* January 1958. Closing date for applications: October 15, 1957.

d) Six-Month Advanced Diploma Course in Social Welfare Policy for Low Income Countries.

Requirements for admission: Practical experience in social work, preferably at the teaching and public service level. *Next course starting:* September 1957. Closing date for applications: June 30, 1957.

INTERNATIONAL TRAINING CENTRE FOR AERIAL SURVEY

Information: The Dean, International Training Centre for Aerial Survey, 3, Kanaalweg, Delft.

COURSES OFFERED:

a) Photogrammetry, including cartography, topography and theory of errors; b) Photogeology; c) Use of air photographs for soil survey and other agricultural purposes; d) The same for forestry and other sylvicultural purposes; e) Air photography and survey navigation.

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[1] Courses are given in English only unless otherwise mentioned.

Lectures and instruction are given in English, French or German.

Courses are adapted to individual needs, and may therefore vary from some months to two years.

Requirements for admission: Dependent upon the individual student's programme of study: *Next course(s) starting:* September and January.

DELFT INSTITUTE OF TECHNOLOGY - NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION

Information: Netherlands Universities Foundation for International Cooperation, 27, Molenstraat, The Hague.

Course offered: International Course in Hydraulic Engineering. Three branches of study: 1) Tidal and coastal engineering; 2) Reclamation; 3) Rivers and navigation works.

The course lasts twelve months and leads to a Diploma.

Requirements for admission: a degree in engineering of a recognized institution of higher learning. *Next course starting:* October 1957 (at Delft).

TRAINING COURSES AND RESEARCH FOUNDATION

Information: Training Courses and Research Foundation,76, Nieuwe Laan, Delft.

COURSES OFFERED:

a) International Course on Small-Scale Industries. Theoretical and practical training in investigating and solving the specific problems of small-scale industries, and in finding a methodology which can be applied to the establishment of new industries. Successful attendance of the course leads to a diploma.

   Requirements for admission: B.Sc. or M.Sc. in engineering or equivalent degrees from recognized universities. *Next Course:* November 1957 until end of April 1958.

b) European Course on Small-scale Industries. Course on increasing productivity in small industries.

   Requirements for admission: The course is especially devised for executive personnel of advisory services, training institutes, employers' associations, trade-unions, productivity centres, etc. *Next course:* June 12 until June 28, 1957.

HAGUE ACADEMY OF INTERNATIONAL LAW

(Founded in 1923 with the support of the Carnegie Endowment)

Information: Secretariat, Hague Academy of International Law, The Peace Palace, The Hague.

COURSES OFFERED:

a) Summer Session, 1957: eleven series of lectures on selected topics of private and public international law, given in French and English. A certificate may be awarded to regular attendants. Advanced students may apply for admission to the examination leading to the Diploma.

   Requirements for admission: Study and/or practical experience in international law: university professors and students, civil servants, judges, lawyers, diplomatic, consular and international officers.

   Next course: July 15 until August 10, 1957. 28th Session.

b) 1957 Session of the Centre of Studies and Research in International Law and International Relations (established in 1957 with the aid of the Rockefeller Foundation). The detailed study of the legal questions relating to the decisions of the International Court of Justice in the CORFU CHANNEL Case (April 9, 1949) and in the NOTTEBOHM Case (April 6, 1955). Languages: French and English. The Curatorium may issue a testimonial based on the quality of the student's work during the session.

   Requirements for admission: Advanced academic degree, such as the Academy's diploma, or proof of at least three years' actual practice in international affairs.

   Next course starting: August 19 until September 28, 1957.

FREE (REFORMED) UNIVERSITY OF AMSTERDAM

Information: Secretary of the International Relations Committee, Vrije Universiteit, 162 Keizersgracht, Amsterdam.

Course offered: Summer Course 1957. Language: English.

Requirements for admission: usual requirements for university study. *Next course:* September 3 until September 10, 1957.

INTERNATIONAL AGRICULTURAL STUDY CENTRE, MINISTRY OF AGRICULTURE AND INSTITUTE OF AGRICULTURE

Information: Secretary, International Agricultural Study Centre, 32, Prof. Ritzema Bosweg, Wageningen.

COURSES OFFERED:

a) International Seminar on Land Development for Agricultural Uses. Languages: French, English, German.

   Requirements for admission: The seminar aims to attract officals who have to promote, co-ordinate and supervise land development projects in their various aspects, in their own country. *Next course:* May 6 until May 24, 1957.

b) International Meeting on Methods and Programme Planning in Rural Extension. Languages: French, English, German.

   Requirements for admission: the course is especially devised for extension officers. *Next course:* July 2—31, 1957.

MINISTRY OF EDUCATION, ARTS AND SCIENCES

Information: Congress Organization Office, Ministry of Education, Arts and Sciences, 3, R. J. Schimmelpennincklaan, The Hague.

COURSES OFFERED:

a) Summer Course on Dutch Language and Culture, Utrecht, 1957.

   Requirements for admission: Participants must be French-speaking persons, interested in Dutch language and culture by virtue of their profession or for other reasons. *Next course:* Augustus 19 to September 12, 1957.

b) Vacation courses for Belgian teachers, Amsterdam, 1957 (organized in co-operation with the Belgian Ministry of Public Education).

   Requirements for admission: Participants must be engaged in teaching in Belgium.

   Next course: For secondary school teachers: July 8 to 23, 1957. For elementary school teachers: July 29 to August 13, 1957.

ROMAN CATHOLIC UNIVERSITY AT NYMEGEN — NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION

Information: Netherlands Universities Foundation for International Co-operation, 27, Molenstraat, The Hague.

COURSE OFFERED:

1957 Summer Session. Subject: "The Community of Mankind and Cross-cultural Relations".

Requirements for admission: usual requirements for university study. *Next course:* July 16—August 3, 1957.

NETHERLANDS UNIVERSITIES FOUNDATION FOR INTERNATIONAL CO-OPERATION

COURSE OFFERED:

"Survey of the Netherlands" (to be held in The Hague).

Requirements for admission: usual requirements for university study. *Next courses:* July 8—14, 1957 and August 19—28, 1957.

The following Netherlands Universities participate in the Netherlands Universities Foundation for International Co-operation:

State University at Leyden
State University at Groningen
State University at Utrecht
University of Amsterdam
Free (Reformed) University of Amsterdam
Roman Catholic University at Nymegen
Institute of Technology at Delft
Institute of Agriculture at Wageningen
Netherlands Institute of Economics at Rotterdam
Roman Catholic Institute of Economics at Tilburg

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